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ABSTRACT

This nutrition and physical fitness curriculum kit provides a means for students, teachers, parents, and school health and food service staff to learn about the nutritional value of food and the relationship of food and physical fitness to growth, development, and health; develop food and activity habits which promote good health; and share this knowledge with family members and the community. Fifth and sixth grade class plans for nutrition instruction identify objectives for the lesson, list instructional aids, outline learning activities, and offer pertinent explanatory information on the lesson topic. Topics covered include: (1) cells and energy nutrients; (2) body composition; (3) food-energy measurement, and structural and regulatory nutrients; (4) nutrient identification, and vitamin, and mineral review; (5) metabolism and digestion; (6) body types; (7) nutrition status assessment; (8) factors which influence eating habits; (9) environmental foodways; (10) food labeling and advertising; (11) fueling body cells, pulse rate, and exercise; (12) physical fitness; (13) personal fitness test; (14) personal fitness; (15) dental health, snacks, and calories; (16) nutrient density; (17) goals for healthful eating, and school lunch; (18) nutrition-fitness case studies; and (19) nutrition information evaluation. Testing materials are included as well as selected references and instructional aids. Spirit master originals are provided for classroom use. (JD)

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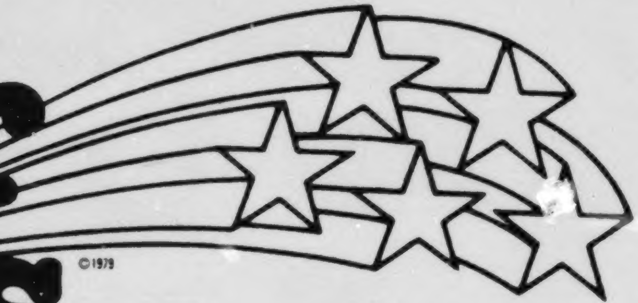
NUTRITION Super Stars



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NUTRITION
Super
Stars

TEAM CURRICULUM GUIDE

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Teachers, school food service staff, and school nurses, as well as parents, are in a position to influence children's food and activity choices. The Super Stars Nutrition-Physical Fitness Curriculum Kit provides a means for these team members and students to:

Learn about the nutritional value of food and the relationship of food, and physical fitness to growth, development, and health.

Develop food and activity habits which will help promote good health.

Share their knowledge with family members and the community.

The Nutrition Super Stars Kit includes 5 lessons with a teacher's guide for 20 class plans plus a spirit master book which contains 44 masters.

LESSON I	Everybody's a "Star"
LESSON II	Creating a "Star"
LESSON III	Shaping a "Star"
LESSON IV	Making a "Super Star"
LESSON V	Fueling a "Super Star"

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NUTRITION Super Stars

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This curriculum was developed, field tested, and evaluated by the Department of Nutrition and Food Science at the University of Arizona, Tucson, 85721. The Nutrition Super Stars Curriculum Kit is distributed by the Food and Nutrition Division of the Arizona Department of Education, Phoenix, 85007; Carolyn Warner, Superintendent, and Dr. Jim Hartgraves, Deputy Superintendent.

This Nutrition Super Stars Curriculum Kit is the culmination of ideas, hard work, and dedication of many people. The curriculum kit contains two major items: a curriculum guide for twenty class plans and this spiritmaster book.

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LESSON I - EVERYBODY'S A "STAR"

Page

Objectives 1

Class 1 - Cells - Structure and Function
Energy Nutrients - Fat, Carboyhdrate, Protein 4

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NUTRITION Super Stars

LESSON I - EVERYBODY'S A "STAR"

CONCEPT Food supplies nutrients which form dynamic body composition.

CLASSES 1-4

OBJECTIVES

A. BODY COMPOSITION -- NUTRIENTS AND CELLS

1. Identify. The cell is the basic unit of the body.
2. Identify. The six major nutrients in food which are used to continually build and repair the body cells: fats, carbohydrates (simple and complex), protein, vitamins, minerals, and water.
3. Identify. Food which contains one or more of the six major nutrients.
4. Identify-List. One food which is a concentrated source of each major nutrient -- fat, carbohydrate (simple and complex), protein, vitamins, minerals, and water.

INSTRUCTIONAL AIDS

CLASS NUMBER	AIDS
1	Handout #2 - FUEL BURNERS
	Handout #3 - CELL POWER
	Materials - Onion, Knife, Microscope, Toothpicks, Glass slides, Cover glasses, and Iodine
	Handout #3 - FUELING UP
2	Handout #4 - EVERYBODY IS A STAR
	Reference - NUTRITION CONCEPTS AND CONTROVERSIES
	Filmstrip/Cassette Projector Filmstrip/Cassette WALDO LEARNS ABOUT NUTRITION - CARBOHYDRATE, FAT, PROTEIN

OBJECTIVES

5. Identify. Each person's body composition is made up of different (percentages) amounts of each nutrient.

6. Identify-Explain. The amount (percentage) of these nutrients in the body are dependent upon an individual's age, sex, nutrient intake, and activity patterns.

B. BODY COMPOSITION - A DYNAMIC PROCESS

7. Identify-Describe. The role of fats, carbohydrates (simple and complex), protein, vitamins, minerals, and water for growth.

8. Identify-Describe. The energy content of fat, carbohydrate, and protein.

9. Identify-Describe. The calorie is a measurement unit for food energy.

INSTRUCTIONAL AIDS

CLASS NUMBER	AIDS
2	Reference - FOOD IS MORE THAN JUST SOMETHING TO EAT
	Handout #5 - FUELING UP
3	Handout #6 - WHAT IS A CALORIE
	Reference - NUTRITION CONCEPTS AND CONTROVERSIES
	Filmstrip/Cassette Projector Filmstrip/Cassette WALDO LEARNS ABOUT NUTRITION - VITAMINS & MINERALS
	Reference - FOOD IS MORE THAN JUST SOMETHING TO EAT
	Handout #7 - NUTRIENT STARS
4	Poster - YOUR DIET - YOUR HEALTH
	Mini-Poster - THE HASSLE-FREE GUIDE TO A BETTER DIET
	Reference - FOOD-HOME AND GARDEN BULLETIN NO. 228
	Handout #8 - NUTRITION SEARCH
	Handout #9 - VITAMIN B
	Handout #10 - VITAMIN C
	Handout #11 - CALCIUM
	Handout #12 - IRON
	Materials - Test tape and iodine

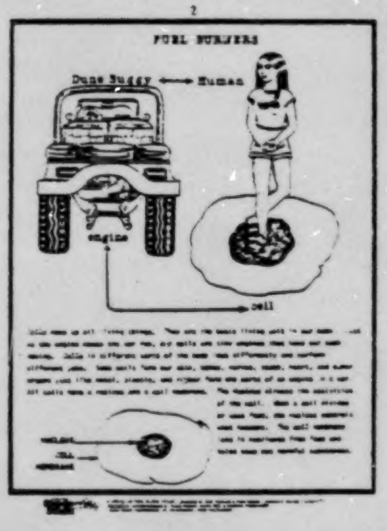
OBJECTIVES	INSTRUCTIONAL AIDS
	CLASS NUMBER **AIDS**
10. Identify-Describe. The effects of imbalanced energy/nutrient intake on the nutritional status of the body. 11. Identify-Explain. That nutrients work as a team in the body and no single food or small group of food supplies all of the nutrients needed by the body. 12. Identify-Explain. That many combinations of foods can provide a nutritionally adequate diet and guidelines are available for rating diet adequacy (nutrient density, five food groups, School Lunch Pattern, Dietary Goals, RDA). 13. Identify-Explain. That the amount of energy/nutrients needed by an individual are dependent upon the age, sex, body size, activity level, and health status of the person.	

NUTRITION Super Stars

LESSON 1
CLASS 1
OBJECTIVES 1-2

LEARNING ACTIVITIES

1. Handout #2 - FUEL BURNERS

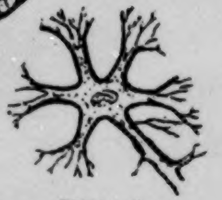


INFORMATION

All living things are made up of cells. The basic living unit of our body is the cell. The body contains about 75 trillion cells.

Each part of the body is actually an aggregate of many different types of cells held together by intercellular "cement". Each type of cell is specially adapted to perform one particular function. For instance, the red blood cells, 25 trillion in all, transport oxygen from the lungs to all parts of the body.

bone cells


nerve cells

AIDS

1. Handout #2 FUEL BURNERS

LEARNING ACTIVITIES

DISCUSSION QUESTIONS:

-What is the body made of?

Nutrients that form CELLS that make up our skin, bones, hair, organs, and blood.

-What is a car engine made of?

Metal, plastic, rubber that form the engine block, pistons, distributor, and spark plugs.

-What are the two main parts of our body cells?

Cell membrane and nucleus.

-What are the functions of these two cell parts?

The nucleus directs the activities of the cell. When a cell divides, or uses food, the nucleus controls what happens.

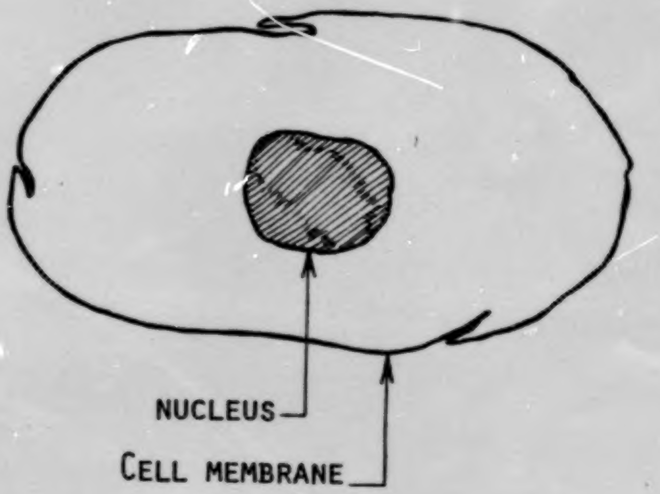
The cell membrane lets in nutrients from food and helps keep out harmful substances.

-What do you think would happen if the engine or the nucleus were removed from your body cells?

They would not work.

INFORMATION

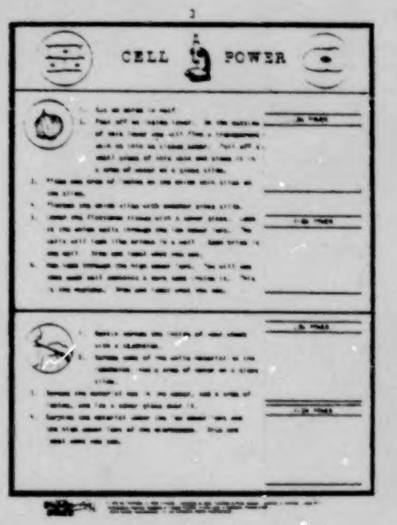
Even though there are many different types of cells in the body, all cells have some common characteristics. For example, each cell contains a nucleus and a cell membrane.



AIDS

LEARNING ACTIVITIES

2. Handout #3 - CELL POWER


CELL POWER

(This activity can be done by students in small groups or as a student or teacher demonstration.)

Not all the nuclei will show up due to the thickness of the cell and the way the slide was prepared. However, some should show up. If none show up, try it again with a thinner slice of onion.

INFORMATION

Animal and plant cells are different from one another. All cells have a nucleus and a cell membrane. Only plant cells have a cell wall. Animal cells have no cell wall.

AIDS

2. Handout #3
CELL POWER

Materials

Onion
Knife
Microscope
Toothpicks
Glass slides
Cover glasses
Iodine

LEARNING ACTIVITIES

DISCUSSION QUESTIONS:

-What do you think the iodine did to the cell?

It stained the cell wall or membrane and the nucleus and made them look dark.

-Do you think cells from your bones would look different from the cells in your cheeks?

Yes, because they are different types of cells.

INFORMATION

All cells use oxygen to help produce body energy. Oxygen, vitamins, and minerals are combined in the cell to release energy from the energy nutrients -- fat, carbohydrate (*sugars or starches*), or protein. This energy is required for all cells to function.

The general mechanisms for changing nutrients into energy are basically the same in all cells. All cells also deliver end-products of their chemical energy reactions into the fluid surrounding the cells. These waste products are eliminated from the body in urine or sweat.

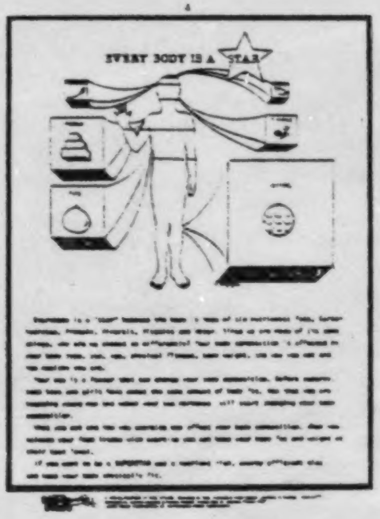
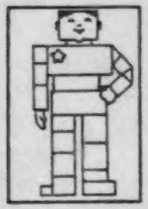
AIDS

NUTRITION Super Stars

LESSON 1

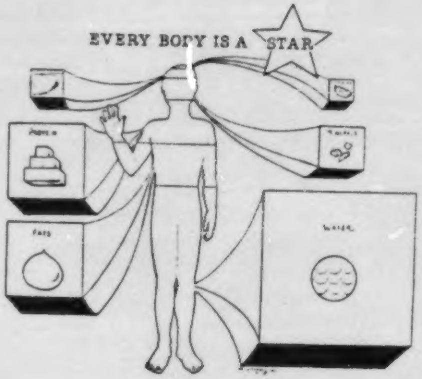
CLASS 2

OBJECTIVES 1-9

LEARNING ACTIVITIES	INFORMATION	AIDS
1. Handout #4 - EVERYBODY IS A STAR  	EVERYBODY IS A STAR because everyone's body is composed of the same ingredients called *nutrients*. The cells in our body are made from the six major nutrients: Water Carbohydrates  Protein Minerals Fats Vitamins	1. Handout #4 EVERYBODY IS A STAR Reference NUTRITION CONCEPTS AND CONTROVERSIES

Our body cells obtain these nutrients from the *food* and *beverages* we eat and drink.

AVERAGE PERCENT OF BODY WEIGHT from each major nutrient



Carbohydrates - 1/2%
Vitamins - 1/2%
Protein - 16%
Minerals - 6%
Fats - 17%
Water - 60%

The percentage of these six nutrients in your body will vary from the average. This variation depends on your body type, sex, age, nutrient intake (diet), activity patterns, physical fitness, and health status.

LEARNING ACTIVITIES

INFORMATION

SEX ♀♂

Women usually have a higher percentage of body fat than men. 22% of the average woman's body weight is fat while 18% of an average man's body weight is fat.

AGE

As the body ages, the percentage of water decreases.

DIET/ACTIVITY

We all are aware that consuming more calories than we burn up in our daily activities will increase the size of the percentage of our body weight that is made up of fat.

PHYSICAL FITNESS

A long distance runner may only have 7% of their body weight coming from fat.

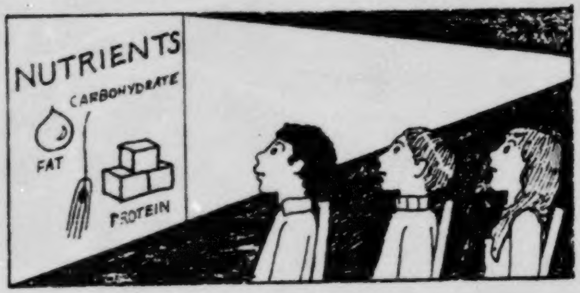
BODY TYPE

The body type we inherit from our family also affects our body composition. We will study more about body types in future classes.

AIDS

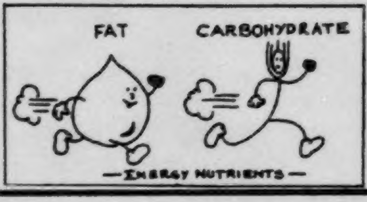
LEARNING ACTIVITIES

2. Filmstrip/Cassette
WALDO LEARNS ABOUT
NUTRITION - CARBOHYDRATE, FAT,
PROTEIN (15 minutes)



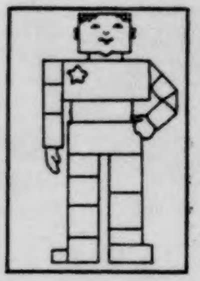
This filmstrip/cassette covers the three nutrients that supply energy to the body. The key ideas are:

1. All food contains nutrients.
2. No one food supplies all of the nutrients necessary for good health.
3. Fat, carbohydrate, and protein are 3 of the 6 major nutrients.
4. Fats and carbohydrates are the *best* energy sources in food



INFORMATION

THE ENERGY NUTRIENTS



PROTEIN

Protein is a nitrogen-containing nutrient that has been recognized for 140 years as a substance necessary to the life of all body cells. Protein is named after the Greek work *proteios*, which means "of prime importance." Proteins are made of "building blocks" called amino acids.

Life is possible for weeds, flowers, cows, and humans because there is protein to provide amino acids. The amino acids in protein are used to make new cells in muscles, glands, bones, blood, and other tissues. Amino acids also build such body proteins as hemoglobin, enzymes, antibodies, and hormones such as insulin. Amino acids from our food also form body proteins for the transport of fats and other nutrients in our blood.

Protein also provides energy when our diet contains too little calories from fat or carbohydrate. When our diet contains more protein than our body needs for building and repairing cells, the extra protein is converted to fat and stored in the adipose tissue.

AIDS

2. Filmstrip/
Cassette
Projector

Filmstrip/
Cassette
WALDO LEARNS
ABOUT NUTRITION-CARBOHYDRATE, FAT,
PROTEIN

LEARNING ACTIVITIES

5. Protein can also be an energy source but its *major* function is to supply amino acids to build and repair body cells.

6. Examples of foods which contain a lot of fat, carbohydrate, and protein.

NOTE: *A series of review questions are included in the filmstrip.*

INFORMATION

THE RECOMMENDED DIETARY ALLOWANCE (RDA) FOR PROTEIN IS:

	Age Years	Protein - RDA
Female	11-14	46 grams
	19-50	44 grams
Male	11-14	44 grams
	19-50	56 grams

There are about 20 different amino acids in proteins. Proteins from animal sources, such as milk, meat, fish, eggs and cheese are called *complete proteins* because they supply all the 8 essential amino acids which the body cannot build for itself. Some proteins are called *incomplete* proteins because they do not contain the 8 essential amino acids that the body cannot make. These incomplete proteins cannot aid growth unless they are combined with foods which can supply the missing amino acids needed to form complete proteins.

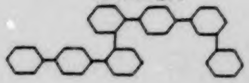
CARBOHYDRATES

Carbohydrates have gotten the undeserved reputation as a fattening ingredient in food. The fact is, carbohydrate is the *ideal* fuel for most body functions. There are only 3 other body fuels -- fat, alcohol, and protein. Protein is expensive and, when used for energy, it has no advantage over carbohydrate. Fat is less costly, but is a more concentrated energy source and cannot be used efficiently by the brain and nerves. Alcohol has the same disadvantages, plus some other undesirable side effects when used in

AIDS

LEARNING ACTIVITIES

STARCH



SUGAR

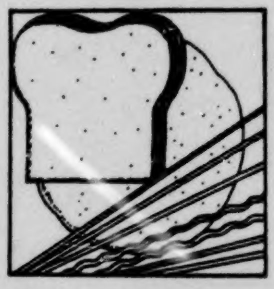
INFORMATION

excess. Thus, of all the possible alternatives, carbohydrate is the preferred calorie source for the body.

All carbohydrates are not alike. So, it is also important to distinguish between complex and simple carbohydrates.

Complex Carbohydrates - *Starch* and *cellulose* are two forms of complex carbohydrates. Starch is gradually digested and absorbed to supply energy to the body in the form of glucose. Cellulose cannot be digested by humans, but still serves a useful function in the body.

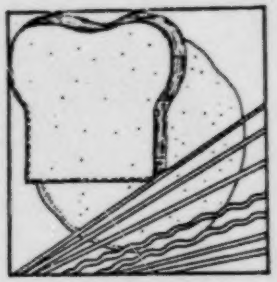
Simple Carbohydrates - found in foods such as sugar, molasses, and honey, are quickly digested and are turned into glucose and absorbed by the body.



Foods which contain the *complex carbohydrate starch* include cereals, rice, tortillas, breads, potatoes, macaroni, spaghetti, and other flour products.

Another form of complex carbohydrate is *cellulose*. Cellulose is one type of fiber which is found in whole grain cereals, fruits, and vegetables. Whole grains also contain bran which is another type of fiber. Fiber does not supply energy to the body because it cannot be digested. But fiber is very important in our diet to help regulate body processes.

AIDS



Fiber provides bulk and aids in the establishment of normal bowel movements. Too little fiber in the diet results in small bowel movements which are difficult to pass. Too much fiber leads to frequent large stools. Too frequent bowel movement can also interfere with the absorption of nutrients, especially minerals, from the digestive tract.

Simple carbohydrates occur naturally in fruits, milk, grains, and vegetables. *Simple carbohydrates*, such as sugars and honey, are often added to foods such as cereals, catsup, beverages, and desserts. These hidden simple carbohydrates add to our calorie intake. Extra carbohydrates not needed for immediate body fuel are stored in the liver and muscles. The storage form of carbohydrates is called glycogen. Any other extra carbohydrate is turned into body fat.

FATS

Fats, like carbohydrates have acquired a bad reputation. We hear a lot about the bad effects of too much dietary cholesterol and the increase in the amount of fat in the typical American diet. As a result, many people have decided that *fat*, also called *lipids*, is bad for your health.

Lipid is the general term for fats. It includes substances which generally cannot be dissolved in water. About 95 percent of the fats, or lipids, in food and in our body are a kind of fat called *triglyceride*. Other members of the lipid family include *lecithin* and *cholesterol*.

LEARNING ACTIVITIES

NUTRIENT	ENERGY CONTENT Calories/gram
FAT	9
CARBOHYDRATE	4
PROTEIN	4
ALCOHOL	7

NOTE: Students can use "Food is More Than Just Something to Eat" as a reference to obtain basic information on protein, carbohydrates, and fat that is presented in the filmstrip.

INFORMATION

It may surprise you to know that fat is absolutely necessary to our body, and *some* fat must be present in our diet in order to maintain good health. Fat makes up part of the cell membrane in each cell in your body. It also surrounds and pads all of your vital organs such as the heart and liver.

Fat is important for still another reason. Some essential nutrients are soluble in fat and, therefore, are found mainly in food which contain fat. These nutrients are the essential fatty acid linoleic acid and the fat-soluble vitamins -- A, D, E, and K.

Fat in food includes visible fats and oils, such as butter, margarine, vegetable oil, and the fat you trim from meat. There is also *hidden* fat in meat, nuts, avocados, and many processed foods.

Ounce for ounce, fats contain twice as many calories as carbohydrates or proteins. Besides being a concentrated energy food, fats have many other roles. If more fats are eaten than are needed for immediate energy needs, the fat will be stored in fat paddings on various parts of the body.

Fat also carries chemicals which give foods their aroma and flavor. This accounts for the smells associated with foods that are being fried, such as bacon or french fries.

Consumption of fat in the United States is decreasing, but is still higher than earlier in this century or in developing countries. High levels of fat intake is implicated in some *modern* diseases, including obesity, atherosclerosis, and cancer. However, the

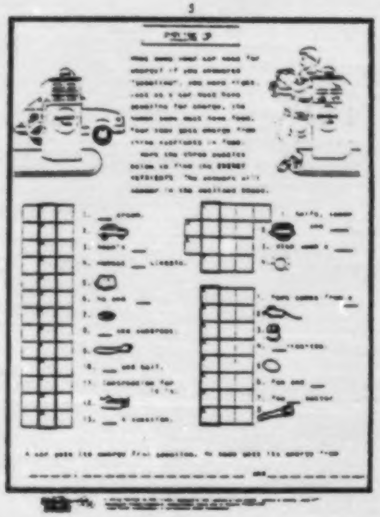
AIDS

Reference

FOOD IS MORE THAN JUST SOMETHING TO EAT

LEARNING ACTIVITIES

3. Handout #5 - FUELING UP



Have students complete this handout as a review of the energy nutrients.

INFORMATION

causes for these diseases are complex. The role of fat in these disease processes has not been determined. However, until the evidence is in, limiting fat intake in your diet seems to be a prudent idea.

BUTTER?
NOPE! NO MORE FAT FOR ME

AIDS

2. Handout #5
FUELING UP

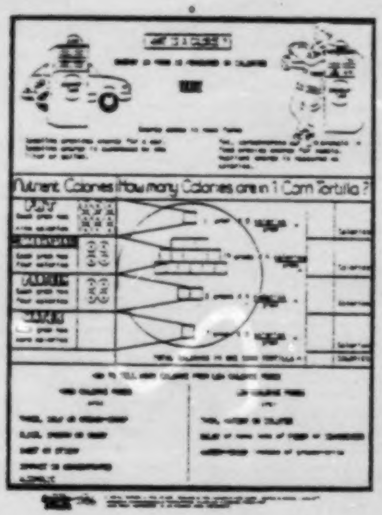
LESSON 1

CLASS 3

OBJECTIVES 2-4, 7-10, 13

LEARNING ACTIVITIES

1. Handout #6 - WHAT IS A CALORIE



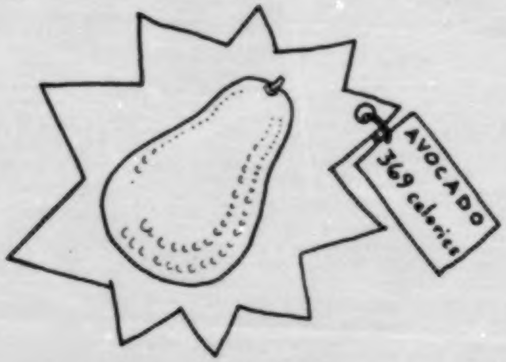
Nutrient Calories How many Calories are in 1 Corn Tortilla?

NUTRIENT	ENERGY CONTENT
FAT	9 calories/gram
CARBOHYDRATE (simple or complex)	4 calories/gram
PROTEIN	4 calories/gram
ALCOHOL	7 calories/gram

INFORMATION

The energy source for our car is gasoline or diesel fuel. We purchase these fuels by the unit of measurement called a gallon or liter.

We obtain fuel for the body from the energy nutrients--fat, carbohydrate, and when necessary, protein. The energy in food is measured in *calories*.



One calorie (K calorie) is the amount of heat necessary to raise the temperature of a kilogram (a liter) of water 1°C. Scientists are gradually shifting to a more universal system which represents food energy in units called kilojoules (kj). A kilojoule is the amount of energy expended when a kilogram is moved one meter by a force of one Newton. The joule will become the unit of food energy as the United States shifts to the metric system. One calorie (K calorie) equals 4.2 kj.

AIDS

1. Handout #6 WHAT IS A CALORIE

Reference

NUTRITION CONCEPTS AND CONTROVERSIES

LEARNING ACTIVITIES

SEX	AGE	RECOMMENDED DIETARY ALLOWANCE (RDA) FOR ENERGY (Calories per Day)
Female	11-14	2200 (1500-3000)
	23-50	2100 (1200-3000)
Male	11-14	2700 (2000-3700)
	23-50	2700 (2300-3100)

2. Filmstrip/Cassette - WALDO LEARNS ABOUT NUTRITION - VITAMINS AND MINERALS (17 minutes)

NOTE: *Students can use "Food is More Than Just Something to Eat" as a reference to obtain the basic information about calories, vitamins, and minerals which is presented in the filmstrip.*

INFORMATION

The chart on the left summarizes the recommended daily calorie intake to maintain normal body weight for females and males of various ages. We will study more about our energy requirements in future classes.

VITAMINS

The multibillion-dollar vitamin supplement industry has been selling the general public on the idea that vitamins are the new fountain of youth. Many people also have been convinced that vitamin supplements will cure a wide variety of ailments from baldness to cancer. In reality, the only disease a vitamin will cure is one caused by a deficiency of that vitamin.

AIDS

2.

Filmstrip/ Cassette Projector

Filmstrip/ Cassette WALDO LEARNS ABOUT NUTRITION - VITAMINS & MINERALS

Reference

FOOD IS MORE THAN JUST SOMETHING TO EAT

LEARNING ACTIVITIES

This filmstrip covers two of the nutrients -- vitamins and minerals. These nutrients *do not* supply energy to the body. They are called *essential* nutrients because we must get them from foods in our diet since our body cannot make enough of them to meet its needs. The KEY IDEAS in this filmstrip are:

1. Vitamins and minerals are two major kinds of nutrients.
2. Minerals make up part of your body and help keep your body working.
3. Vitamins also help keep your body working.
4. Some vitamins are water soluble and some vitamins are fat soluble.
5. Vitamins and minerals are found in a variety of foods.

INFORMATION

Nutritionists define *vitamins* as indispensible, *noncaloric* organic compounds in food -- needed in *very* small amounts in the diet. Vitamins perform specific functions to promote growth or to maintain health and life.

People may need several hundred grams of energy nutrients each day to maintain their weight and fuel their body activities, but they need only one-thousandth (*milligram*) or one-millionth (*microgram*) of a gram of each vitamin.

The discovery of vitamins occurred around the beginning of the 1900's. One reason why this came so late in the history of science is that vitamins are found in foods and in the body in *very* tiny amounts. It took the sophisticated technology developed by the science world in the past 80 years to isolate and synthesize vitamins.

Another stumbling block in vitamin research was in finding the right animals for experiments. A chemical substance that is a vitamin for one species may not be vital for another species. This happens because one species may be able to synthesize a vital substance from other chemicals in their food, whereas a second species must obtain that vital substance preformed in its food. The substance is of equal importance to both species, but is a *vitamin* only to the second species. Vitamin C, also called ascorbic acid, is an example. Human beings must obtain Vitamin C from their food, so for us, it is a vitamin. The rat, dog, and cat make their own Vitamin C in their body from other chemicals in their food. So for them, ascorbic acid is not a vitamin.

AIDS

LEARNING ACTIVITIES

INFORMATION

There are a great many vitamins, differing widely in makeup and function. Each vitamin has a very specific function in the body and no other vitamin can take its place. Many vitamins work together in teams in certain body functions such as metabolism, and a severe lack of even one can cause a deficiency disease.

Conversely, supplying large amount of vitamins to your body can be hazardous enough to cause malnutrition.

> "Mal" means bad. Malnutrition means "bad" nutrition. So, malnutrition can be due to an *excess* or *deficiency* of the body's nutrient needs.

One method of classifying vitamins is to separate them on the basis of their solubility in fats or in water. These are useful categories because they give an indication of the kinds of foods in which you find particular vitamins, the way the body stores them, and the way they should be handled during food preparation in order to preserve as much of their activity as possible.

AIDS

LEARNING ACTIVITIES	INFORMATION	AIDS

The fat-soluble vitamins -- A, D, E, and K -- are found in animal fats and plant oils. Just like fats, once these vitamins have been absorbed from the intestines into the lymph stream, they can't be excreted. Instead, they are stored in the liver and fat pads. Therefore, Vitamins A, D, E, and K can reach toxic levels in the body if ingested in large amounts.

All other vitamins -- the B vitamins and Vitamin C -- are water soluble. They can be stored for a period of a month or more and are excreted if taken in excess of body needs. So, they must be replenished on a regular basis. In contrast to the fat-soluble vitamins, the water-soluble B vitamins and Vitamin C are more easily lost by poor food storage and preparation methods.

Two vitamins children frequently consume in amounts below their Recommended Dietary Allowance guidelines are Vitamins A and C. Children who consume diets which contain a *variety* of foods, including dairy products, meats, dried beans, whole grains or enriched grain products, usually get enough of three well known B vitamins, Thiamine (B-1), Riboflavin (B-2), and Niacin. The B vitamins *do not* supply energy to the body, but they are essential in order for each cell to help release the energy from our food.

LEARNING ACTIVITIES

ESSENTIAL BODY CHEMICALS
Carbon
Hydrogen
Oxygen
Nitrogen
Major minerals
calcium

phosphorus
chlorine
potassium
sulfur
sodium magnesium
Trace minerals
fluorine
silicon

vanacium
chromioum
magnanese
iron cobalt
nickel
copper
zinc
selenium
molybdenum
tin
iodine

INFORMATION

MINERALS

Minerals account for 21 of the 25 chemical elements essential to life.

Carbohydrate and fats are made from only three elements: *carbon, hydrogen,* and *oxygen.* Protein is made from these same three elements plus *nitrogen.* The nitrogen is what makes protein a building nutrient rather than primarily an energy source like fat and carbohydrate.

Minerals, like vitamins, are essential nutrients. They must be supplied to our body from the foods we eat. Many different minerals are needed for growth and development of tissues like bones and blood. Some minerals are needed to enable each cell in our body to function.

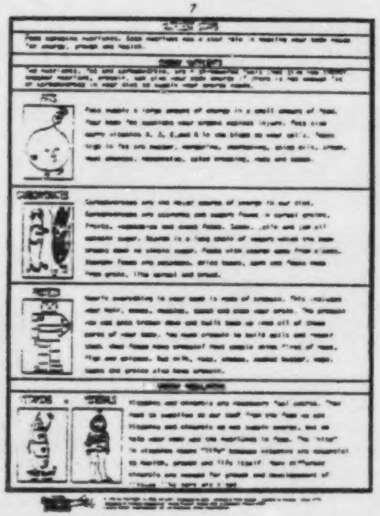
Minerals are classified as *major* minerals or *trace* minerals. The distinction between the major and trace minerals doesn't mean that one group is more important than the other. Rather, it refers to the *quantity* of that mineral that is needed by the body. The major minerals are those present in amounts larger than 5 grams (*a teaspoon*). The trace minerals are needed only in very tiny amounts, usually less than a fourth of a gram. *(1 ounce = 28 grams).*

The minerals that are most often in short supply in children diets are calcium and iron.

AIDS

LEARNING ACTIVITIES

3. Handout #7 - NUTRIENT STARS



This handout can be used by the students to review and name the functions of the major nutrients.

INFORMATION

WATER

Our bodies can survive a deficiency of some major nutrients for long periods of time. However, the body can survive only a few days without water. This is due to the fact that water makes up 60 percent or more of the body's weight and performs many essential functions. Each of your billions of body cells has to have water to remain alive. The water in your body is like a river. Water in your arteries, veins, and capillaries brings each cell the nutrients it requires and carries away the waste products of the life sustaining activities that take place in each cell.

Body water is also a part of tissues, and is necessary for chemical reactions in digestion, aids in temperature regulation and performs many other vital body functions. We get water not only from the things we drink, but also from foods. Fruits and vegetables are foods which contain a lot of water.

AIDS

3. Handout #7
NUTRIENT STARS

NUTRITION Super Stars

LESSON 1
CLASS 4
OBJECTIVES 3, 4, 11, 12

LEARNING ACTIVITIES	INFORMATION	AIDS
1. Discuss Poster - YOUR DIET - YOUR HEALTH Handout and discuss the mini-poster, THE HASSLE-FREE GUIDE TO A BETTER DIET.	The five foods group are a *guide* to helping you select the kinds and amounts of foods that make up a nutritious diet. The guide divides commonly eaten foods into five groups according to their nutrient composition. By following the guide, you'll be able to choose foods for their vitamins, minerals, and protein - as well as calorie content. VEGETABLE FRUIT Group BREAD CEREAL Group MEAT Poultry Fish BEANS Group MILK CHEESE Group FATS SWEETS & ALCOHOL Group	1. Poster: YOUR DIET - YOUR HEALTH Mini Poster: THE HASSLE-FREE GUIDE TO A BETTER DIET References FOOD-HOME AND GARDEN BULLETIN NO. 228 FOOD IS MORE THAN JUST SOMETHING TO EAT

NUTRITION Super Stars

LEARNING ACTIVITIES

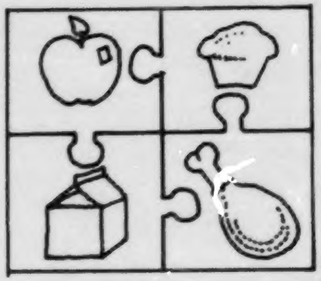
DISCUSSION QUESTIONS:

-What are the recommended number of servings for each food group?

Vegetable-Fruit	*4*
Bread-Cereal	*4*
Milk-Cheese	
Children 9-12	*3*
Adults	*2*
Meat, Poultry, Fish, Beans	*2*
Fats-Sweets-Alcohol	*?*

-Why is eating a variety of foods important for a nutritious diet?

No one food or small group of foods contains all the nutrients necessary for good health.



INFORMATION

The suggested number of servings in the guide would contain an average of 1200 calories, provide adequate protein, and supply most of the vitamins and minerals you need. Plan your day's food around this foundation to keep on the right track to a better diet.

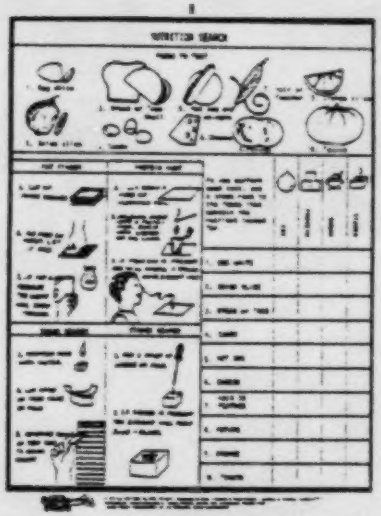
Each food group has one or more of the essential nutrients necessary for staying healthy and fit. No one food is a complete source of all nutrients. To get all of the many nutrients needed for health, a variety of foods from all of the groups needs to be eaten.

Remember, the food guide gives you only the basics. You have to choose foods which meet your special needs. But you're usually better off by eating a wide assortment of foods from the first four food groups.

AIDS

LEARNING ACTIVITIES

2. Handout #8 - NUTRITION SEARCH



INFORMATION

There are various experiments that can be performed to determine which of the six major nutrients are present in a food.

The nutrient tests in this handout are very basic examples of the kinds of tests nutritionists and food scientists use to analyze the nutrient composition of foods. These tests are rough qualitative tests. They will tell you whether or not one or more of the energy nutrients are present in large amounts in each food your students' test. These are the kinds of tests that are used to classify foods into the five food groups.

AIDS

2. Handout #8 NUTRITION SEARCH

Materials

Test Tape
Iodine

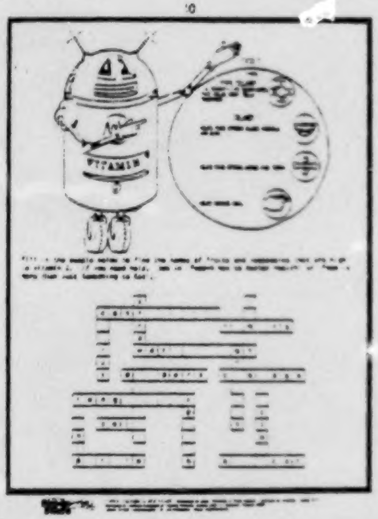
LEARNING ACTIVITIES

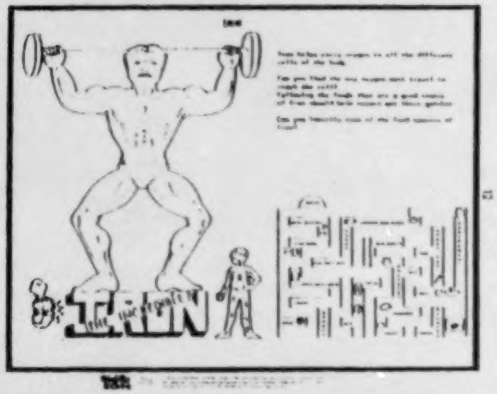
3. Handouts:
#9 - Vitamin B
#10 - Vitamin C
#11 - Calcium
#12 - Iron

BONUS ACTIVITY: Plan a snack tasting party with the help of your school cafeteria to try some snacks which are good sources of these key vitamins and minerals. Invite student's parents to attend your snack party!

INFORMATION

The B vitamins, Vitamin C, calcium, and iron are vitamins and minerals which are usually in short supply in children's diets. Therefore, it is important to encourage students to eat foods that are good sources of these nutrients.





AIDS

3. Handouts:
#9-Vitamin B
#10-Vitamin C
#11-Calcium
#12-Iron

LESSON II CREATING A "STAR"

Page

Objectives 28

Class 5 - Metabolism and Digestion 30

Class 6 - Body Types
Nutritional Status 36

Class 7 - Nutritional Status Assessment 44

NUTRITION
Super
Stars

LESSON 11 - CREATING A "STAR"

CONCEPT Nutrients in food are metabolized to form dynamic body composition.

CLASSES 5 - 7

OBJECTIVES

14. Identify-Explain. Metabolism is a continual series of processes by which our body cells convert nutrients from food into energy, body structure, and waste.

15. Identify-Explain. Metabolism includes the processes of digestion, absorption, transportation, and excretion of ingested nutrients in food.

16. Identify-Explain. The process of digestion, absorption, transportation, and excretion and the results of these body processes on the nutrients in food.

17. Identify-Explain. That nutrients are soluble in water or fat and are transported to body cells in body fluid (blood-water soluble nutrients, fat-soluble nutrients, lymph-fat soluble nutrients.)

INSTRUCTIONAL AIDS

CLASS NUMBER	AIDS
5	Handouts #13 and 14 - THE FOOD TUBE PUZZLE - PARTS A AND B
	Reference - NUTRITION CONCEPTS AND CONTROVERSIES
	Filmstrip/Cassette Projector Filmstrip/Cassette DIGESTION - YOU ARE WHAT YOU EAT
	Handout #15 - THE FOOD TUBE
6	Handout #16 - WHAT BODY TYPE ARE YOU?
	Reference - NUTRITION CONCEPTS AND CONTROVERSIES

OBJECTIVES

18. Identify-Give Examples. Water soluble and fat soluble nutrients.

19. Identify. That measurements of height, weight, arm circumference, and skinfolds give a rough estimate of the amount of fat in body composition and fat-free weight (fat-free weight reflects weight of water, minerals, and lean muscle.)

20. Measure, Record, and Compare to Standards. Height, weight, arm circumference, and skinfold measurements

21. Identify. Body measurements can help evaluate the nutritional status of the body.

INSTRUCTIONAL AIDS

CLASS NUMBER	AIDS
	Handout #17 - BODY PROFILE
	Materials - Height Bar, Measuring Tape, and Scale Arm Circumference Tape, Ross Calipers and Felt Tip Pen
7	Handout #18 - KNOW YOUR BODY

NUTRITION Super Stars

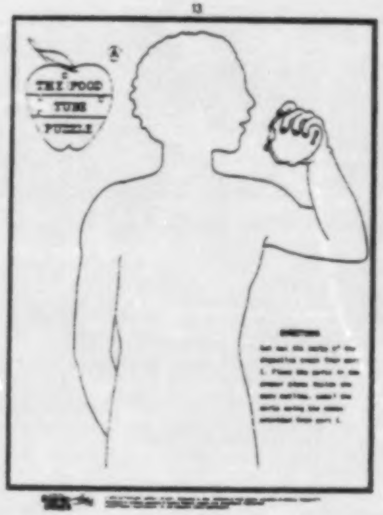
LESSON 11

CLASS 5

OBJECTIVES 14-18

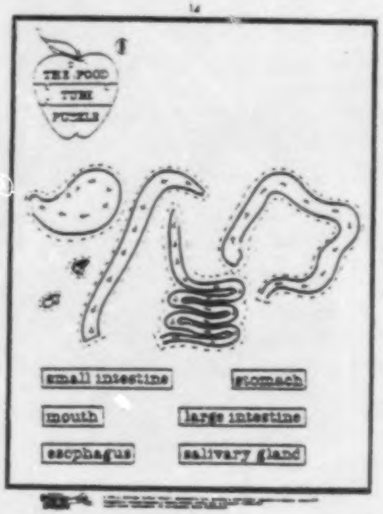
LEARNING ACTIVITIES

1. Handouts #13 and 14 - THE FOOD TUBE PUZZLE - PARTS A AND B



INFORMATION

The digestive tract or *food tube* is where our body starts the conversion of food into nutrients that the body can use. These handouts outline the basic anatomy of our food tubes. An understanding of the anatomy will make it easier for students to understand the complex process of digestion.



AIDS

1. Handouts #13 and 14 THE FOOD TUBE PUZZLE - PARTS A AND B

Reference

NUTRITION CONCEPTS AND CONTROVERSIES

LEARNING ACTIVITIES

2. Filmstrip/Cassette
DIGESTION - YOU ARE WHAT YOU EAT
(11 minutes)

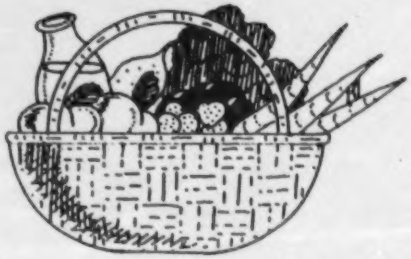
Filmstrip key ideas:

a. Food is *metabolized* in order to be useful to the body for energy, building, and repairing cells.

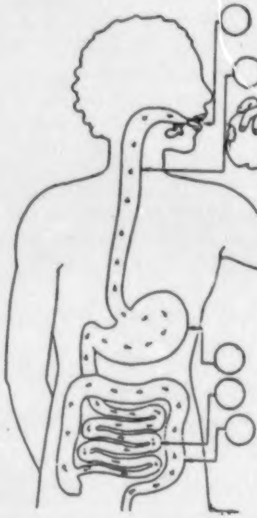
Metabolism is a continual series of processes by which our body cells convert nutrients from food into energy, body structure, and waste. The process of metabolism includes digestion, absorption, transportation, and excretion of ingested nutrients in food.

b. Food is not moved through the digestive tract by gravity. Muscular contractions, called peristalsis, produce a wavelike muscular motion which pushes the food along the digestive tract.

INFORMATION



Neither carrots nor beans nor cherries nor any other food can be used by the body in the form we eat it. Food must be broken down in the digestive tract and dissolved to a liquid state. Then the different nutrients can be absorbed into the blood and lymph and transported to the cells. This process is called *digestion*.



AIDS

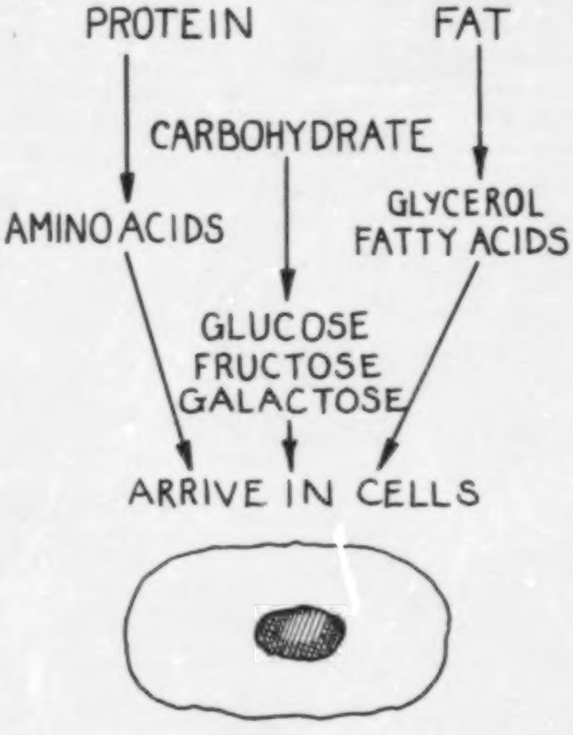
2.

Filmstrip/
Cassette
Projector

Filmstrip/
Cassette
DIGESTION -
YOU ARE WHAT
YOU EAT

LEARNING ACTIVITIES

c. In the digestion process, fats are broken down into fatty acids and glycerol; carbohydrates into simple sugars called glucose, fructose, and galactose, and protein into amino acids.

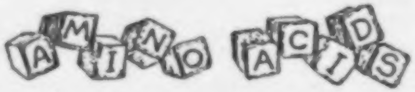


INFORMATION

The digestive tract is a series of food processing organs which start at the mouth and ends at the rectum. In the mouth, digestion is primarily mechanical. Chewing grinds food into smaller pieces and moistens them with saliva. While we chew food, the saliva in the mouth begins to chemically change some of the complex carbohydrates (*such as starch*) into sugar. When starch is broken down into sugar, we can detect a sweet taste.

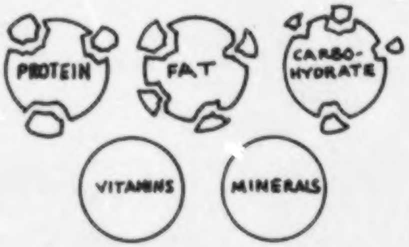
When food is swallowed, it passes along into a long tube or the esophagus. A series of ring-like muscles squeeze the food along until it reaches the stomach.

The stomach acts much like a cement mixer. It churns and mixes food with digestive juices (*saliva and acid*). The saliva which mixed with the food in your mouth, continues to work in your stomach to change more carbohydrate into simple sugar. The digestive juice breaks down protein into smaller units called amino acids.



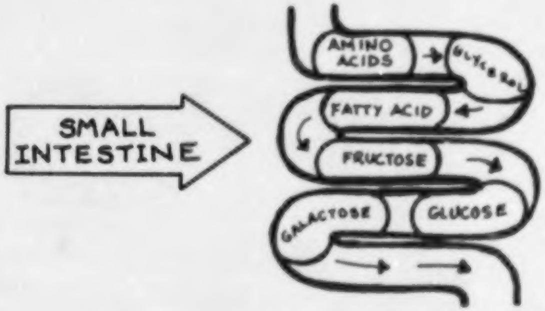
AIDS

LEARNING ACTIVITIES	INFORMATION	AIDS



Fats are not digested until they reach the small intestine. Because fats are digested very slowly, they are often called satisfying foods and delay that empty feeling in the stomach.

Meat, milk, and bread proteins are only partially digested as they move into the small intestine, so the small intestine must split the protein, fat, and carbohydrate into their smallest units.



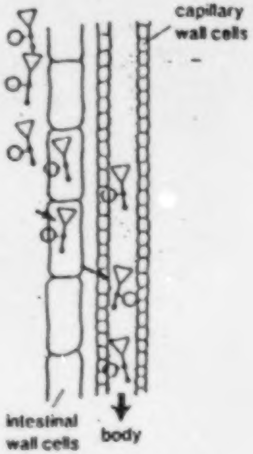
You would not recognize your food now! Your body has turned it into a liquid that contains *AMINO ACIDS* from the PROTEINS, *FATTY ACIDS*, and *GLYCEROL* from FATS, and *SIMPLE SUGARS* from CARBOHYDRATE.

The nutrients from digested food must pass through the intestinal wall before they can be used by the body. Breakdown products of carbohydrate, protein, and fat travel through the wall into the blood or lymph system to all parts of the body.

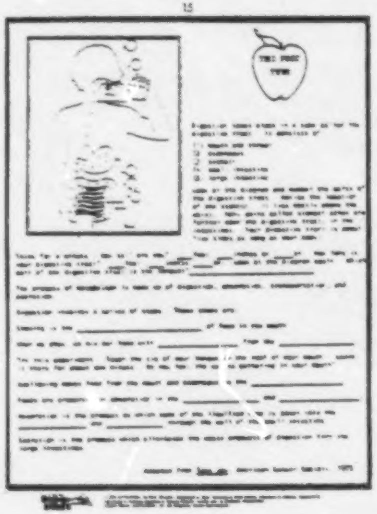
What about vitamins and minerals? They do not have to be changed much by the body. As the other nutrients are broken down in the digestive tract, the vitamins

LEARNING ACTIVITIES	INFORMATION	AIDS

and minerals dissolve and also travel through the intestinal wall. The fat-soluble vitamins (*A, D, E, and K*) are usually absorbed with fat. The water-soluble vitamins (*the B-vitamins and Vitamin C*) and minerals are easily transported through the intestinal wall.



How long does digestion take? The entire digestive process takes 48 hours. The breakfast we eat at six o'clock on Monday morning passes from the stomach into a small intestine by one o'clock. By six o'clock Tuesday morning, the food enters the large intestine. By six o'clock Wednesday morning, the last of Monday's breakfast will be ready to leave the large intestine.

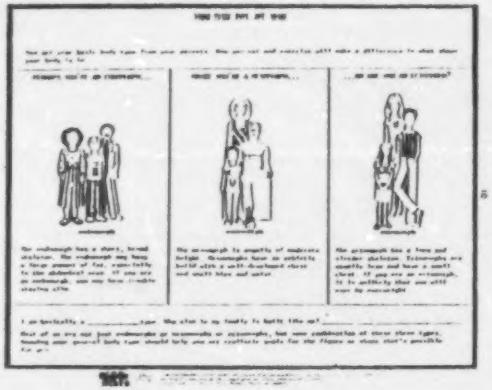
LEARNING ACTIVITIES	INFORMATION	AIDS
d. Our emotions can affect our digestion. 	What a person thinks or feels can put the workings of the food tube into a real tizzy! Emotions can cause minor stomach problems -- *butterflies in the stomach* -- to burning ulcers. Here is how: fear or anxiety can shut off the flow of pancreatic juice to part of the small intestine and can increase peristalsis. Stomach acid is then dumped into the small intestine at a time when it is unprepared for the acid. The small intestine does not have a thick mucous coating to protect itself against the acid; consequently, the lining of the small intestine wears away leaving an ulcer or hole.	
3. Handout #15 - THE FOOD TUBE  This handout reviews the anatomy and processes of digestion.	Digestion is a complex process that transforms the nutrients in food to forms which can be absorbed and metabolized by the body. How well the digestion process works is affected by our state of health, diet, and emotions.	3. Handout #15 THE FOOD TUBE

NUTRITION Super Stars

LESSON 11
CLASS 6
OBJECTIVES 5, 6, 10, 19-21

LEARNING ACTIVITIES

1. Ⓣ Handout #16 - WHAT BODY TYPE ARE YOU?



This handout will help students learn what body type they are.

INFORMATION

EVERYBODY IS A "STAR" because everyone's body is made from the same nutrients - *fat, protein, minerals, carbohydrates, vitamins, and water.*

Each point of the star and the center represent the nutrients which make up our body composition.

Each of our "STARS" is a little different shape because of the many factors which influence our body composition. The purpose of the next two classes is to study the factors that shape our body composition "STARS".

AIDS

1. Handout #16 WHAT BODY TYPE ARE YOU?

Reference

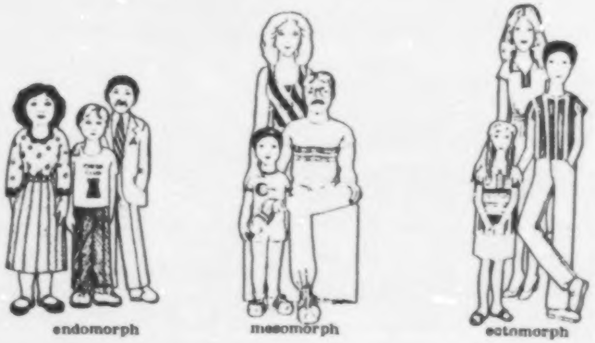
NUTRITION CONCEPTS AND CONTROVERSIES

LEARNING ACTIVITIES

INFORMATION

We all inherit a certain *body type* from our parents. No amount of exercise or changes in our diet will affect our body type. So, it is helpful to learn what body type we have to work with, because we cannot change it.

Body builds are classified into degrees of three extreme body types - *endomorph*, *mesomorph*, and *ectomorph*.



The *ENDOMORPH* has a short broad skeleton. They may have a large amount of fat mostly in the abdominal area.

The *MESOMORPH* is usually of moderate height. They have an *athletic* build with a well developed chest and small hips and waist.

The *ECTOMORPH* has a long and slender skelton. They are usually lean and have a small chest.

AIDS

LEARNING ACTIVITIES

2. Discuss the problem of obesity.

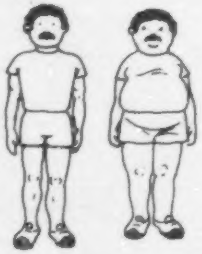
DISCUSSION QUESTIONS: ?

-Why is obesity a problem?

Obese people are more likely to have medical problems and accidents.

-What is the difference between obesity and overweight?

Obese individuals have excess body fat. Overweight individuals have large bones and muscles with no excess body fat.



INFORMATION

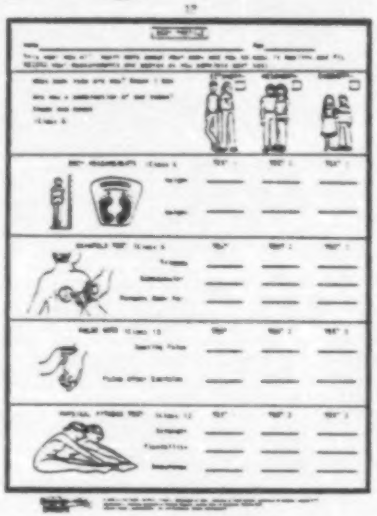
It seems that because of their basic body type, some people have more trouble than others trying to maintain their ideal body weight. It has not been well established whether or not heredity affects the total body fat as well as the body type. But what we do know about heredity and its effect on body type helps us to realize the weight goal for one person may not be realistic for the next.

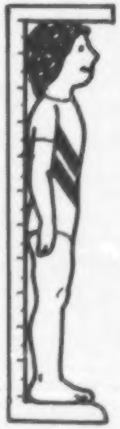
Obesity is a complex problem. It is a health hazard because obese people have [illegible] tendency than normal weight people to develop medical problems like heart disease, diabetes, arthritis, varicose veins, and gout. The greatly obese also have more accidents.

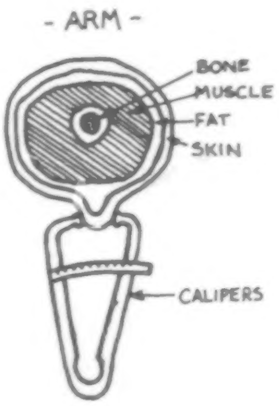
Overweight and obese are not the same thing. Two people can be the same height and weight but one can be overweight and the other obese. The overweight person has large bones and muscles with no excess body fat. The obese person has a small skeleton, little muscle development and excess body fat.

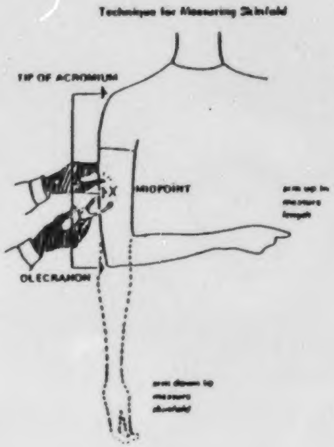
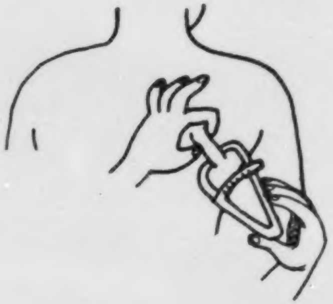
Understanding the difference between obesity and overweight is important because it helps people set realistic goals for their ideal weight. The amount of fat on the body can be changed, but the basic body build cannot be changed. This topic will be studied in more detail in future lessons.

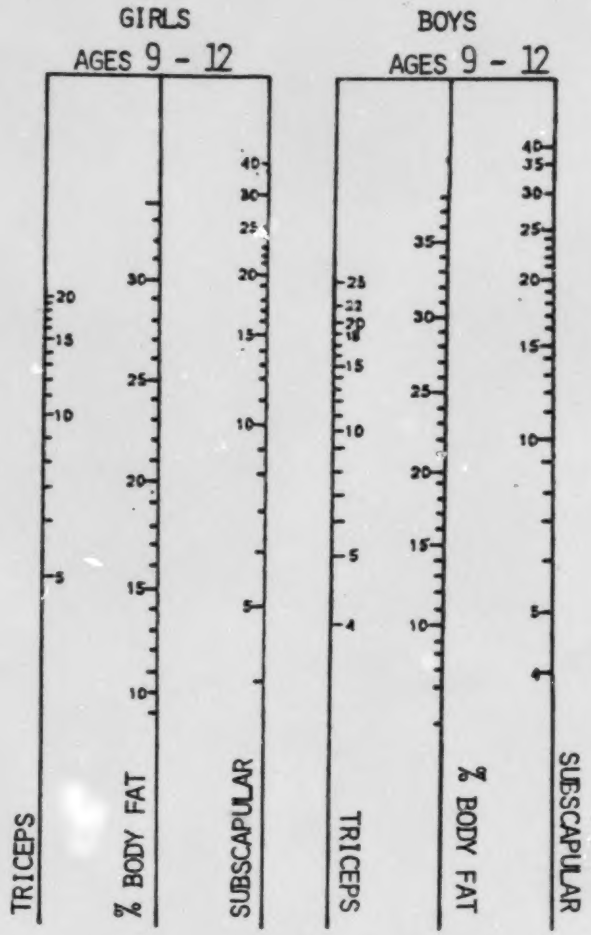
AIDS

LEARNING ACTIVITIES	INFORMATION	AIDS
3. Handout #17 - BODY PROFILE  Have the student's body measurements taken: a. Height b. Weight c. Skinfolds Triceps Subscapular (optional) This can be done as a demonstration with 1-2 students or as a group activity with all students. The purpose of this activity is to help students learn about their nutritional status by interpreting their height, weight, and skinfold measurements.		3. Handout #17 BODY PROFILE **Materials** Height Bar Measuring Tape Scale

LEARNING ACTIVITIES	INFORMATION	AIDS
The teaching *team* can demonstrate how each measurement is taken. Then have students pair-up and take measurements on one another or divide class into 3 stations around the room and have team members assist with the three type of measurements. These measurements will be recorded on the BODY PROFILE SHEET - Handout #17 and interpreted in the following class. Handout #17 should be saved for future use in Class 12.		
a. Measuring Height 	Height is best measured using a fixed measuring device, such as a height bar or a measuring tape taped to the wall. Have child remove shoes. The child should stand up straight. If a measuring tape is used, the child's back should be placed snugly against the measuring tape. The feet should be close together, with heels, buttocks, and back of head pressed firmly against the back of the tape. (*See illustration*) The whole body should be carefully centered, the head held erect with the gaze straight forward. A movable device should be placed firmly on the head to aid in reading the measurement. In this position, the measurement can be read and recorded on the BODY PROFILE SHEET - Handout #17	

LEARNING ACTIVITIES	INFORMATION	AIDS
b. Measuring Weight 	Weight is best measured using a beam balance scale. Any scale will do as long as the child is weighed on the same scale throughout the year. As little clothing as possible should be worn or the same amount of clothing should be worn every time the measurement is taken. 1. Have child remove shoes and step onto scale. 2. Have child position body with: a. Feet flat on the platform. b. Heels touching together c. Posture erect. 3. Adjust weight on scale until the scale becomes balanced. 4. Record weight on BODY PROFILE SHEET - Handout #17.	
c. Measuring Skinfolds 	Skinfolds are made up of the skin and a layer of subcutaneous fat pulled away from the underlying muscle (*See Illustration*). While there are a number of body sites where skinfolds can be measured, the tricep skinfold is easy to use and is a fairly accurate indicator of body fat.	

LEARNING ACTIVITIES	INFORMATION	AIDS
(1) Tricep Skinfold  Technique for Measuring Skinfold TIP OF ACROMIUM X MIDPOINT arm up to measure length OLECRANON arm down to measure skinfold	Triceps skinfold is taken on the left upper arm. 1. First, measure the length of the upper arm with the forearm at a right angle to the upper arm (*See Illustration*). Locate the bony projection at the shoulder (*the tip of the acromium*) and the bony projection at the elbow (*olecranon*). Use the measuring tape to measure the distance between these two points. Find the mid-point of the upper arm and mark with a felt tip pen. 2. Drop the arm by the side of the body. Grasp the the skinfold with the thumb and index finger just above the midpoint. 3. Measure the skinfold with the *calipers*. Apply enough pressure to the *calipers* so the black lines are aligned. 4. Record the skinfold measurement in millimeters on the BODY PROFILE SHEET - Handout #17.	Arm Circumference Tape Ross Calipers Felt Tip Pen
(2) Subscapular Skinfold (optional) 	Subscapular skinfold is also an accurate measurement for determining body fat. If time permits, this measurement can also be taken either by a nurse in the nurse's office or as a classroom demonstration with student volunteers. This measurement is taken at a point just below the bottom of the shoulder blade in the line of natural cleavage. Have the child clasp hands behind the back. Locate the bottom of the shoulder blade and mark with a felt tip pen. Grasp and measure the thickness of the skinfold just below your marked point. *(See Illustration)*. Measure the skinfold with the *calipers*. Record the measurement on the BODY PROFILE SHEET - Handout #17.	

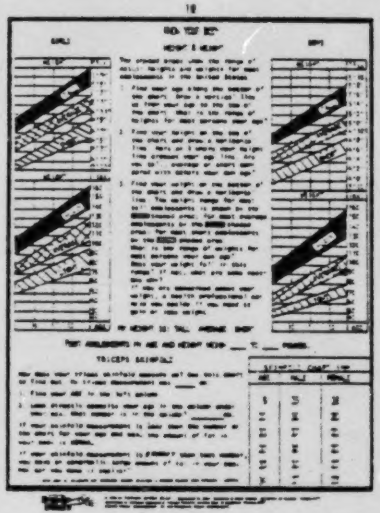
LEARNING ACTIVITIES	INFORMATION	AIDS
4. Calculate percent body fat. (optional) a. FIND YOUR TRICEPS skinfold measurement on the left vertical line. MARK your measurement on the line. b. FIND YOUR SUBSCAPULAR skinfold measurement on the right vertical line. MARK your measurement on the line. c. Use your ruler to DRAW A LINE connecting the two points (your triceps and subscapular measurements). d. FIND YOUR PERCENT BODY FAT where your horizontal line intersects with the middle line marked %fat.	With triceps and subscapular skinfolds, the percent of the body fat can be estimated.  	

NUTRITION Super Stars

LESSON 11
CLASS 7
OBJECTIVES 6, 10, 19-21

LEARNING ACTIVITIES

1. T N Handout #18 - KNOW YOUR BODY

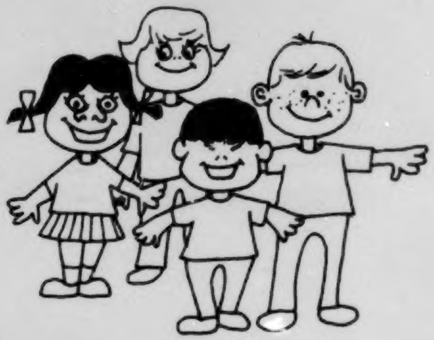


Have students compare their height, weight, and skinfold measurements to *norms* for their age.

2. T Discuss factors responsible for variations in people's body composition.

INFORMATION

Body measurements like height, weight, and skinfolds are used to help evaluate the nutritional status of the body. Normal values for these measurements have been determined for various age groups. Using these *norms*, the students can compare their body composition to other adolescents their age. If their body measurements are at or within the range of these *norms*, the nutritional status of their body could be considered good. If their measurements were greatly different than the *norm*, their body's nutritional status may not be as good as it could be.



There are many reasons for variations in people's body composition. Some of the factors responsible for these variations are already determined for you and

AIDS

1. Handout #18 KNOW YOUR BODY

LEARNING ACTIVITIES

DISCUSSION QUESTIONS: ?

-What reasons can you think of that make your body composition different from the person sitting next to you?

Your body type, your sex, your age, your activity level, your body weight, your diet patterns, and your health status.

-Can you change any of those factors? Which ones?

Changeable: age, activity level, body weight, diet patterns, health status.

Not Changeable: body type, sex.

-What can you do to change some of those factors?

Diet, activity, health status.

-What do you think would happen to your body composition if you didn't eat anything and continued doing what you normally do?

You could lose weight, become sick, or become weak.

INFORMATION

cannot be changed. Some can be changed by *you*. A change in these factors may help improve the nutritional status of your body.

Body type is a factor which was discussed in a previous class. Body type is inherited and determined genetically. Bone structure which influences your body type, cannot be changed without surgery. Muscle development, however, can change through exercise but remember, this change will not have an effect on your body type.

Your *sex* is also determined genetically and influences the placement of fat deposits in the body. Men and women do not put on body fat in the same places. Men tend to put on body fat in the thigh, abdomen, and chest areas, and women put on body fat in their upper arms, thighs, hips, and abdomen.

Age is a changing factor which influences your body composition. Prior to puberty, the body fat placement in boys and girls is about the same. With the onset of puberty, sex along with age affects body composition.

AIDS

LEARNING ACTIVITIES	INFORMATION	AIDS
	Activity level can also be changed and usually does with age. On the average, children tend to be more active and have less body fat than working adults. As individuals get older, they often develop habits which lead to a sedentary life style. However, an active life style is a healthy habit that you can have at any age. An active life style is a Nutrition Super Star lifestyle!	
-What do you think would happen to your body composition if you ate a Thanksgiving dinner everyday? *You would probably gain weight; you would probably increase your risk for cardiovascular disease.*	*Body weight* is another changeable factor but not always a good indicator of body composition. A well-muscled athlete (*male or female*) may weigh a lot but have a small amount of body fat. An inactive individual may also weigh a lot but have small muscle development and a large amount of body fat. The *diet patterns* adopted by each individual affect body composition. Eating more calories than the body needs will result in weight gain. The excess energy, measured in calories, is stored in two forms. It can be stored in the liver and muscle as a type of carbohydrate called *glycogen*. About 100 grams of *glycogen* can be stored in the liver. Muscles can store about 15 grams of *glycogen* per kilogram of muscle. The *glycogen* can only be used for energy production by the muscles that stored it. The extra energy (from excess carbohydrate, fat, or protein) can also be converted to and stored as *fat*. *Fat* is the most efficient and economical way to store energy needed for later activity.	

LEARNING ACTIVITIES

INFORMATION

Your *health status* also affects your body composition. Long term illness is debilitating. The body is in a stress situation and utilizes stored energy to attempt to regain a balanced healthy state. Lack of activity associated with long term illness also affects body composition as muscles atrophy or waste away. This along with consumption of stored energy leads to the "weak-tired" feeling associated with being sick.

Eating patterns and activity level are reflective of an individual's life style, which in term affects body composition. In order to maintain a healthy body composition without excess body fat, caloric intake must be balanced by energy expenditure through activity. Excessive caloric consumption without adequate energy expenditure results in obesity. Excessive energy expenditure with little caloric consumption often results in an undernourished state. This is not always a clear cut statement because of all the other factors which affect body composition that we have just discussed.

AIDS

LESSON III SHAPING A "STAR"

Page

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Class 8 - Factors Which Influence Eating Habits 50

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Class 11 - Food Labeling and Advertising 62

NUTRITION Super Stars

LESSON III - SHAPING A "STAR"

CONCEPT Many factors influence eating and activity habits.

CLASSES 8-11

OBJECTIVES

22. Identify-List. Reasons for eating: survival; habit; sensory stimulation; emotions, ethnic; religious or cultural background; express friendship, love or hospitality; and celebrate special occasions.

23. Identify-List. Factors which influence eating patterns:

    - Life style, i.e., geographical location, activity patterns
    - Food likes/dislikes
    - Religious/cultural/ethnic background
    - Peers, family, friends, teachers, school food service workers

INSTRUCTIONAL AIDS

CLASS NUMBER	AIDS
8	Filmstrip/cassette - WHY WE EAT
	Reference: FOOD IS MORE THAN JUST SOMETHING TO EAT
	Handout #19 - FOODWAYS
	Handout #20 - THE FOOD CHAIN
	Handout #21 - LINK THE FOODS
	Reference - NUTRITIVE VALUE OF FOOD
	FOOD IS MORE THAN JUST SOMETHING TO EAT

OBJECTIVES

-Television, radio, newspapers, books, and other advertising

-Feelings/emotions

-Age, sex, body type, health status

-Place where foods, prepared meals, and snacks are purchased, food availability

-Sources of nutrition information.

24. Identify-Explain. The amount of energy needed to produce a food is related to the position of the food in the food chain.

INSTRUCTIONAL AIDS

CLASS NUMBER	AIDS
9	Handout #22 - ENVIRONMENTAL FOODWAYS
	Handout #23 - FOOD LABELS
	Reference - FOOD IS MORE THAN JUST SOMETHING TO EAT
	Handout #24 - FOOD ADVERTISING
	Reference - NUTRITION CONCEPTS AND CONTROVERSIES
10	Handout #23 - FOOD LABELS
	Handout #24 - FOOD ADVERTISING
	Reference - NUTRITION CONCEPTS AND CONTROVERSIES
11	Handout #23 - FOOD LABELS
	Handout #24 - FOOD ADVERTISING

NUTRITION Super Stars

LESSON III
CLASS 8
OBJECTIVES 22-24

LEARNING ACTIVITIES

1. Introduce and Show Filmstrip Cassette: WHY WE EAT (7 minutes)

DISCUSSION QUESTIONS:

-What are the things that affect why we eat and what we eat?

1-Survival
2-Habit
3-Sensory stimulation - food smells, TV advertising
4-Emotional make-up - some people eat to relieve boredom and anxiety

INFORMATION

Although people eat primarily to *stay alive*, there are many other factors which determine our eating behavior and food choices. The filmstrip discusses some of these.

There are two other key factors not discussed in the filmstrip that influence what people eat. These are:

-*Nutrition knowledge and motivation*. How much you know about your body's nutrient needs and how motivated you are to meet those needs by the foods you select.

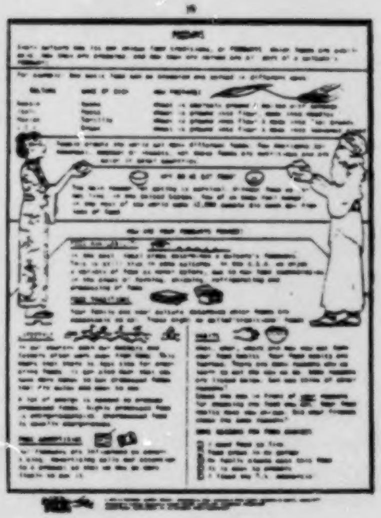
-*Food availability*. What foods you have available to you and that you can afford to buy.

AIDS

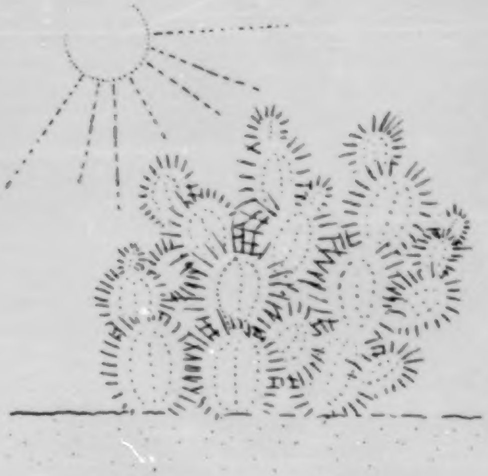
1. Filmstrip/ Cassette: WHY WE EAT

Reference

FOOD IS MORE THAN JUST SOMETHING TO EAT

LEARNING ACTIVITIES	INFORMATION	AIDS
5-Ethnic, cultural, and religious background - set rules for what can and cannot be eaten or what are acceptable foods. *6-Food is a symbol used as discipline and to express friendship and love,*		
2. Handout #19 - FOODWAYS 	People throughout the world eat an incredible diversity of foods. Our eating habits are greatly influenced by the foods that are *available* for us to buy and eat. In addition to the foods available to us, what we eat is determined by a combination of personal and cultural influences. *People eat what their culture makes acceptable for them to eat.* In the case of contemporary America, most people eat what our culture sells to us. The standard food practices of a culture are often referred to as *FOODWAYS*. The *FOOWAYS* of a society encompass how food is acquired, which foods are eaten, how they are prepared, who eats them, with whom, when, how, and in what quantity they are eaten.	2. Handout #19 FOODWAYS

LEARNING ACTIVITIES



INFORMATION

Every culture has unique foodways. Foodways also change over time. If we look at today's patterns and contrast them with those of the past, we realize that the changes have been dramatic, reflecting many other changes in our society.

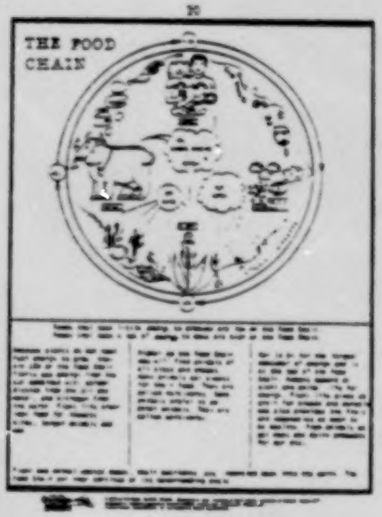
Few of us have gathered prickly pear pads and prepared them to put in a casserole, although they are available, edible, and tasty. Prickly pears simply are not among the foods regularly eaten in our society today. However, in the past, the prickly pear was a part of the diet for many people in this area of the country.

Many of us eat dinner with our friends or family, but at lunchtime, we grab a quick bite alone or with co-workers. With whom we eat has changed greatly since the days when fewer women worked outside the home and many working people and students returned home at lunchtime to eat a meal with their family.

AIDS

LEARNING ACTIVITIES

3. Handout #20 - THE FOOD CHAIN



DISCUSSION QUESTIONS:

-What process occurs to produce food?

Carbon dioxide, water, and nitrogen combine to nourish the seed from which the plant grows. The plant utilizes these compounds and the sun's energy to store energy. Energy is passed through living organisms in decreasing amounts. More energy is used to produce foods high on the food chain than low on the food chain.

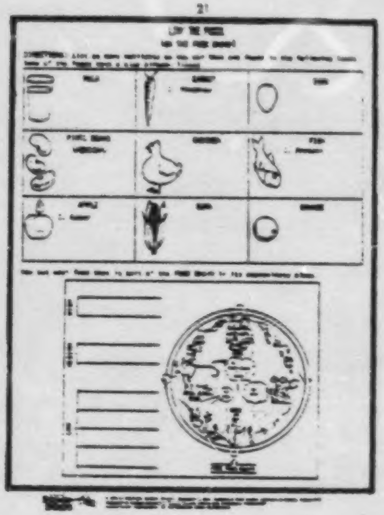
INFORMATION

Carbon dioxide, water, and nitrogen combine to nourish a seed from which a plant grows. The plant utilizes these compounds to produce energy.

The passage of energy through a series of living organisms occurs in steps. These steps are commonly called the *food chain.* At each step of the *food chain,* only part of the energy obtained by the eater is retained in the form of energy nutrients (*fats, carbohydrates, proteins*) that will be available for the next member of the *food chain.* The remaining energy is used by the cells of the eater to perform work or is returned to the environment in the form of heat energy. The members at the high phase of the *food chain* cycle get only a very small portion of useful energy that was originally trapped by the green plants at the beginning of the chain.

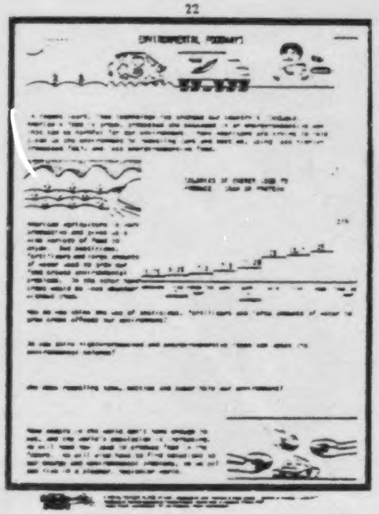
AIDS

3. Handout #20 THE FOOD CHAIN

LEARNING ACTIVITIES	INFORMATION	AIDS
-Where do people get food? *From plants and animals.* -Which type of food, plant or animal requires the most energy? *Animals.*		
4. Handout #21 - LINK THE FOODS. 	This handout can be used to help students locate the position of foods on the FOOD CHAIN and the nutrient content of these foods.	4. Handout #21 LINK THE FOODS Reference NUTRITIVE VALUE OF FOOD and FOOD IS MORE THAN JUST SOMETHING TO EAT

NUTRITION Super Stars

LESSON III
CLASS 9
OBJECTIVES 22-23

LEARNING ACTIVITIES	INFORMATION	AIDS
1. Handout #22 - ENVIRONMENTAL FOODWAYS 	Recent research is demonstrating the vital interrelationship among what we eat, our physical fitness, and our health. We may be clothed in the latest fashions and our home may be full of labor saving appliances like microwave ovens and dishwashers, but the bodies we have are like cavemen or cavewomen. We still have basically the same brain our ancestors had thousands of years ago. We have come a long way from the cave dwellers in many ways: language skills, the arts, and scientific technology. Although the body has remained the same, the technological era has resulted in tremendous advances in communication, transportation, and our food supply. But with these advances have come the undesirable side effects of smog, water pollution, and the necessity of using herbicides, pesticides, and food additives in our food supply. Our cave dweller bodies seem to have difficulty coping with these new conditions. 	1. Handout #22 ENVIRONMENTAL FOODWAYS

LEARNING ACTIVITIES

INFORMATION

Thanks to modern technology, your *FOODWAYS* have changed. You now have the freedom to choose from a greater variety of foods than ever before. But with the freedom comes both risk and responsibility. You are responsible for the choices you make.

Many scientists believe that research shows that American *FOODWAYS* are contributing to some of the chronic diseases that hit people later in life. Therefore, they are recommending some changes in our *FOODWAYS:*

1. Balancing our calorie intake to our energy output.
2. Cutting down on fat, sugar, and salt.
3. Eating more whole grains, fruits, and vegetables.

These scientists believe that these are positive steps toward reducing heart disease, certain cancers, and strokes.

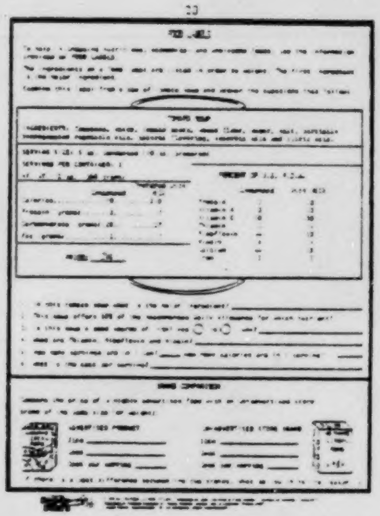
Other scientists believe just as strongly that the evidence doesn't support such conclusions.

So the choice is yours. You are the one who decides what you are going to eat. Now, let's look at some of the factors which influence our choices.

AIDS

LEARNING ACTIVITIES

2. Handout #23, FOOD LABELS.



INFORMATION

In 1938, Congress passed the Food, Drug, and Cosmetics Act requiring that labels state: the common name of the product, the name and address of the manufacturer, packer or distributor; the net contents in terms of weight, measure or count and the ingredients listed in order of descending predominance by weight.

As a result of the 1969 White House Conference on Food, Nutrition, and Health, the Food and Drug Administration issued new labeling regulations in 1973. Three sections of these regulations deal with nutrition labeling, nutritional quality guidelines, and "imitation" foods.

Any nutrition information or claim given on a food label must include under the heading of nutrition information: the serving size, the number of servings per container, the number of k calories per serving; protein, carbohydrate, fat, in grams per serving; and protein, vitamins and minerals per serving, as a percentage of the U.S. R.D.A.

Federal guidelines for *standards of identity* insure that certain food items, particularly highly processed convenience foods, actually contain minimum amounts of nutrients regardless of the number of k calories. It also insures that certain ingredients must be present in specific percentages before the food may use the standard name. For example, any mayonnaise product must contain 65% vegetable oil by weight and either vinegar or lemon juice and egg yolk. *Enriched* refers to the addition of specific nutrients to some foods, such as bread. The nutrients added to enriched foods are: three B vitamins; thiamin, riboflavin, niacin and the mineral, iron. These added nutrients must approximately be equal to those present in the original food before refinement or processing. *Fortified* means

AIDS

2. Handout #23 FOOD LABELS

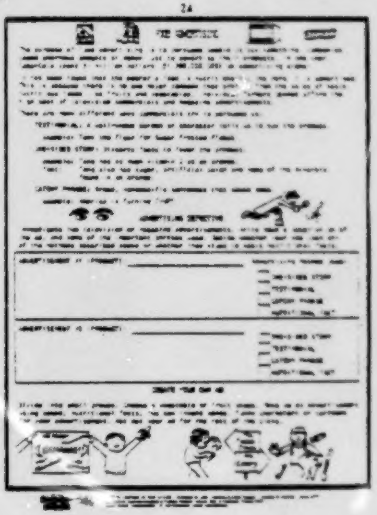
Reference

FOOD IS MORE THAN JUST SOMETHING TO EAT

LEARNING ACTIVITIES	INFORMATION	AIDS
	the addition of specific nutrients in excessive amounts of those normally found in foods. An example of this is the fortification of milk with Vitamin D. *Imitation* foods are those developed as substitutes for familiar foods. The government regulation states that the word imitation must be used on the label only if the product is "a substitute for and resembles another food but is nutritionally inferior to the food imitated." This occurs when the content reduction of an essential vitamin, mineral, or protein amounts to 10 percent or more of the U.S. R.D.A. MIRACLE DRIP MEAN STRIPS TAHITIAN PUNCH BACO-BITS COOL ADE Foods labeled *low calorie* and *reduced calorie* must meet U.S. Food and Drug Administration standards if the food is transported via interstate commerce. Low calorie foods may not exceed 40 calories per serving or .4 calorie per gram. These food labels must also include amounts of calories, protein, carbohydrates, fat, vitamins and minerals in a serving. Foods labeled reduced calories must be at least one-third lower in calories than a similar food in which the calories have not been reduced. The reduced-calorie food label must state the type of food it is compared to. For example, a reduced-calorie can of peaches may say: "Artifically sweetened peaches packed in water, 38 calories per one-half cup serving, 62 percent fewer	

LEARNING ACTIVITIES

3. Handout #24, FOOD ADVERTISING



INFORMATION

than peaches in heavy syrup.[11] In addition, reduced calorie food labels must include per serving amounts of calories, protein, carbohydrates, fat, vitamins, and minerals.

Currently, a voluntary move is underway to disclose fat content on food labels. However, federal standards regarding fat content in foods have not been developed.

Children are taught much of what they know about nutrition by parents and teachers. Another source of exposure for them is via television and magazine ads. The average U.S. child sees more than 10,000 commercials a year, and more than one-half of those are for sugary, sticky foods. Companies spend hundreds of millions of dollars each year to sell a limited number of foods to children. As a result, children may end up with a biased and limited view of what foods are available to them. Consequently, children are being educated to develop undesirable eating habits.

Concerned parent groups have urged the Federal Trade Commission to adopt the following measures: to stop advertising sticky, sugary foods on children's TV programs, to stop unfair selling techniques, to require all advertisements to disclose the sugar contents of the products being advertised and to require the food industries to contribute part of their advertising budgets to the support of public service announcements to promote desirable eating habits as outlined in the U.S. Dietary Guidelines.

AIDS

3. Handout #24 FOOD ADVERTISING

Reference

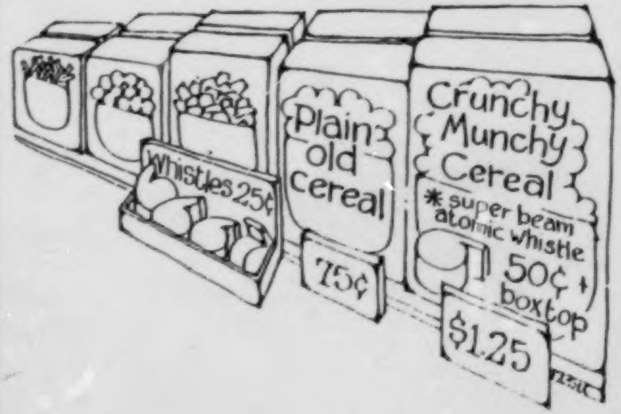
NUTRITION CONCEPTS AND CONTROVERSIES

NUTRITION Super Stars

LESSON III
CLASS 10
OBJECTIVES 22-23

LEARNING ACTIVITIES

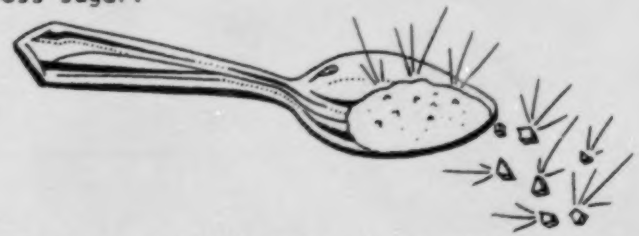
1. Work on Handouts #23, FOOD LABELING and Handout #24, FOOD ADVERTISING.



INFORMATION

Do you know what the largest portion of your food dollar is used for? Some answers which may come to mind are: raw ingredients, processing, packaging, or transportation costs. Actually, the correct answer is: advertising. In 1974, for example, $118 million was spent on advertising in all media for hot and cold cereals; $105 million of that figure was for TV advertising.

A study conducted by graduate students in public health nutrition at the University of Minnesota showed that 71% of the TV food commercials shown between 8:00 AM and 11:00 AM on Saturday morning were selling presweetened breakfast cereals and snacks. Cereals in which sugar provided more than 20% of total calories were advertised five times more frequently than those cereals with less sugar.



Evidence shows that children exert considerable influence on parents in food product purchases. Children's requests for advertised foods have been positively related to the amount of television they watch. Younger children seem to accept food-related

AIDS

1. Handouts #23 and #24, FOOD LABELS and FOOD ADVERTISING

Reference

NUTRITION CONCEPTS AND CONTROVERSIES

LEARNING ACTIVITIES

INFORMATION

claims more readily than older children. Their acceptance may be reinforced by linking specific brand information, particularly for cereals with animated "presenter" characters and premiums.

A national survey to gather food-related information was conducted using six to 14 year old children and their mothers as subjects. Results showed that of the 591 mothers participating in the survey, 75% were influenced by their children's requests for brand and product selection. This was particularly true for presweetened cereals, cookies, gum, fruit drinks, and candy. In the United States, it has been shown that children requested fewer advertised foods if their mothers had more nutrition knowledge and could evaluate nutritional claims. Studies showed that parents spend an additional weekly average of $1.66 more per household on specific products and brands their children request. This adds at least $30 million weekly or $1.5 billion annually to family food bills.

Teachers, Food Service Personnel and School Nurses, as well as parents, are in a position to influence students' behavior. It has become increasingly clear that if we don't teach children how to make food choices, others will. The advertising industry is actively shaping eating behavior.

AIDS

NUTRITION Super Stars

LESSON III
CLASS 11
OBJECTIVES 22-23

LEARNING ACTIVITIES	INFORMATION	AIDS
1. Students give class presentations on activities from FOOD LABELING and FOOD ADVERTISING Handouts. Invite parents in to listen to the class presentations. 		1. Handouts #23 and #24 FOOD LABELS and FOOD ADVERTISING

LESSON IV MAKING A "SUPER STAR"

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Class 15	- Personal Fitness	82

NUTRITION

Super Stars

LESSON IV - MAKING A "SUPER STAR"

CONCEPT Influence of eating and activity habits on health status.

CLASSES 12-15

OBJECTIVES

25. Explain. How eating patterns (nutrition) and activity patterns both influence level of physical fitness, nutrition-health status, and wellness (well-being).

26. Explain. The benefits — (1) mental health and (2) physical health -- of being physically fit.

27. Complete. Basic physical fitness test.

28. Record and Compare to Standards. The results of their physical fitness test.

29. Explain. How to achieve and/or maintain physical fitness.

INSTRUCTIONAL AIDS

CLASS NUMBER	AIDS
12	Handout #25 - FUELING YOUR CELLS
	Reference - NUTRITION CONCEPTS AND CONTROVERSIES
	Handout #26 - PULSE
13	Handout #27 - FITNESS IS?
	Reference - Blue Cross/Blue Shield Booklet, FOOD AND FITNESS
	Handouts #28 and #29 - CLASS FITNESS SCORES
	Handout #17 - BODY PROFILE SHEET

OBJECTIVES

30. Identify. Examples and causes of malnutrition (i.e., obesity, dental caries) and how malnutrition affects physical fitness, nutrition-health status, and wellness.

31. Explain. That malnutrition can be prevented or treated.

32. Explain. That obesity is the result of calorie consumption in excess of body needs and can be prevented or treated.

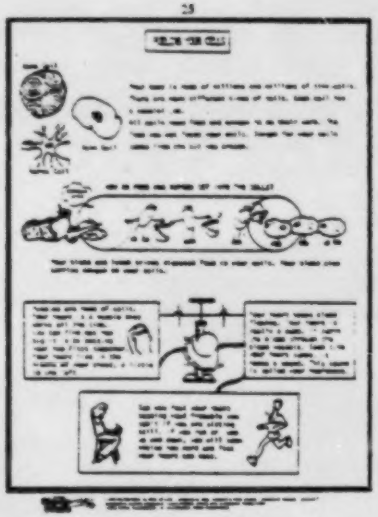
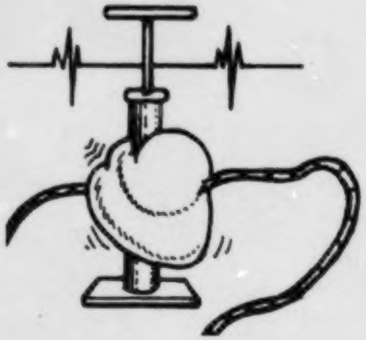
INSTRUCTIONAL AIDS

CLASS NUMBER	**AIDS**
	Personal Fitness Test Directions, pages 73-76
	Tables, pages 77-79
14	Personal Fitness Test Directions, pages 73-76
	Tables, pages 77-79
	Stop watch
15	Handout #30 - YOUR FITNESS
	Handout #31 - EXERCISE FOR FITNESS
	References - FUELS FOR MUSCLE POWER, pages 127-128
	Handout #32 - EXERCISE AND FOOD ENERGY
	Walk-Jog-Run-Athon Poster, page 129
	Walk-Jog-Run-Athon Tally Sheet, page 130

LESSON IV

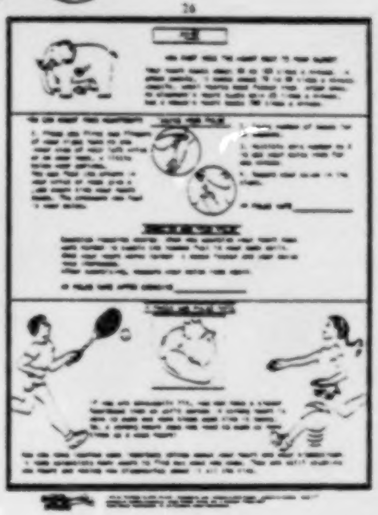
CLASS 12

OBJECTIVES 14, 15, 17, 25, 26

LEARNING ACTIVITIES	INFORMATION	AIDS
1. Handout #25 - FUELING YOUR CELLS 	The oxygen from the air you breathe and the nutrients from the food you eat are transported in the blood to the different cells of your body. This is done by way of the *cardiovascular system.* The cardiovascular system is made up of a set of tubes called *blood vessels* and a pump known as the *heart.* The pumping action of the heart pushes the blood through the blood vessels to the cells. The cells take up the oxygen and nutrients from the blood to make energy needed for all body activities.  The lymph system is also made up of a set of tubes called lymph vessels. These vessels carry fluid from the digestive tract to the blood. Some of the nutrients from digested food are transported in the fluid and dumped in the blood to be carried to the cells.	1. Handout #25 FUELING YOUR CELLS Reference NUTRITION CONCEPTS AND CONTROVERSIES

LEARNING ACTIVITIES

2. Handout #26 - PULSE



a. Demonstrate taking resting pulse:

(1) Place the first 2 fingers of your right hand on the inner thumb side of your left wrist *or* on your neck, a little below your ear lobe and to the side of your Adam's apple.

INFORMATION

The heart is a muscle made up of cells. These cells need energy to keep the heart pumping. Each time the heart pumps, it produces a sound called the heart beat.

The entire blood supply in an adult (*about 6 quarts*) is circulated in about 50 heartbeats, so all the blood of an adult passes through the heart in less than a minute.

Your heart beats several times a minute in order to supply blood to all your cells. When it beats, you can feel the artery in your wrist or neck jump. This is your pulse. By taking your pulse, you can determine how many times your heart beats per minute under a variety of situations. Average resting pulse rate varies with age and sex as listed in the chart below.

Resting pulse-rates:

At birth	130-160
Infants	110-130
Children	90-120
Women	70-90
Men	60-70

AIDS

2. Handout #26 PULSE

LEARNING ACTIVITIES	INFORMATION	AIDS
(2) Count the number of beats for 30 seconds. (3) Multiply this number by 2 to get the pulse rate for one minute. (4) Record number on Handout #26, PULSE and Handout #17, BODY PROFILE.		
b. Take pulse rate after exercise. (1) Have students hop 25 times on one foot and immediately 25 times on the other foot. (*Running in place or doing jumping jacks for one minute could also be done*). (2) Immediately take pulse. (3) Record results. (4) (*Optional*). Sit for two minutes and take pulse again. DISCUSSION QUESTIONS: ? -What does your pulse rate tell you about your body? *How fast your heart pump is working.*	Exercising causes the heart to pump faster in order to supply your cells with enough nutrients. As a result, your pulse rate increases during and shortly after exercising. After exercising, your pulse rate could go as high as 50 beats over your resting pulse rate and still be considered normal. If your recovery rate is normal, in two minutes your pulse rate should be within 5 to 10 beats of your resting pulse rate. Individuals with cardiovascular disease or those physically unfit have weaker heart muscles. They may feel some discomfort (*shortness of breath, chest discomfort or dizziness*) when exercising. This discomfort is due to the stress on a weak heart muscle that has to beat harder and faster to supply enough blood to the working muscle cells. The pulse of people with weak hearts may go over 150 after exercising. They will also have difficulty returning to normal resting pulse rate within 2 minutes. It may take as long as 6 minutes for their pulse rate to return to its normal resting rate.	

LEARNING ACTIVITIES

-Why is your pulse rate higher after you exercise?

The body cells need more energy and air when the body runs faster, just like a car. Therefore, the heart has to pump faster to supply energy and nutrients to the cell.

-Do you remember how energy in the nutrients are measured?

Calories or joules.

3. Calculate basal metabolic rate (BMR)

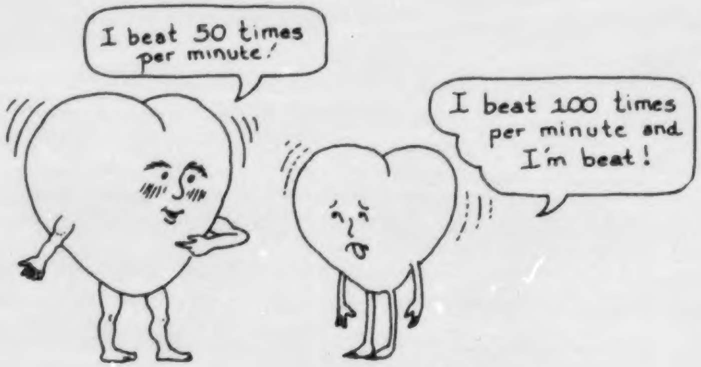
BMR = 1 calorie per kilogram of body weight x 24 hours/day

1 kilogram = 2.2 pounds

To calculate your weight in kilograms (kg), divide your weight in pounds by 2.2.

INFORMATION

Physically fit individuals have very strong heart muscles and are able to pump more blood per beat. Strong hearts can therefore perform the same amount of work, either at rest or during exercise, with less beats per minute.


I beat 50 times per minute!
I beat 100 times per minute and I'm beat!

Just as the heart muscles require energy to perform work, the intestines contain muscles which require energy to help digest our food. In order to breathe, we need energy to run the muscles that help bring air in and out of the lungs. Energy is also needed to maintain body temperature, fuel the on-going activities of each cell, and send nerve impulses to direct all of the activities just mentioned. These activities are referred to as the basal metabolic processes. These processes maintain life. The rate at which calories are used to support these activities is called the basal metabolic rate (BMR). The daily BMR is surpriseingly large. You can roughly calculate your BMR. Your BMR energy need must be met before any energy can be used for other activities. We will study more about your energy needs in future classes.

AIDS

NUTRITION Super Stars

LESSON IV

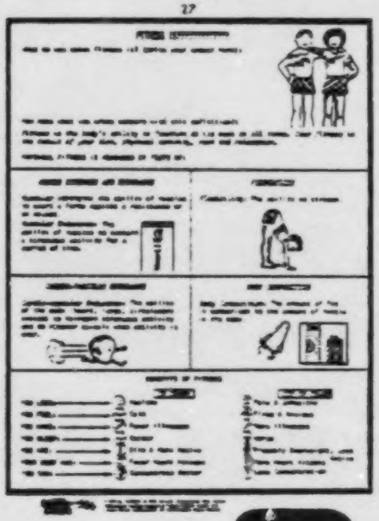
CLASS 13

OBJECTIVES 25-31

LEARNING ACTIVITIES

1. Handout #27 - FITNESS IS?

27



DISCUSSION QUESTIONS:

-What does *fitness* mean to you?

Being healthy, being at average weight for height, being strong, being energetic, and being athletic.

INFORMATION

Physical fitness is a composite of endurance, strength, flexibility, cardiovascular fitness, and body composition. If you are physically fit, you should be able to do your normal daily physical activities without feeling fatigued. In other words, a physically fit body is able to function at its best all the time. Diet, activity, rest, and relaxation all play a role in being physically fit.

Endurance is the ability of muscles to sustain strenuous activity for a long continuous period of time.

Strength is the ability of muscles to exert a force against a resistance or object.

Flexibility is the ability of the muscles to stretch.

Cardiovascular fitness is the capacity of the heart, lungs, circulatory and respiratory systems to do work *(activity)* and to quickly recover when activity is over.

AIDS

1. Handout #27 FITNESS IS?

Reference

Blue Cross/ Blue Shield Booklet, FOOD AND FITNESS

LEARNING ACTIVITIES

-How *fit* do you think you are?

Varied responses.

-How do you know?

Through measures of muscle strength and endurance, flexibility, cardiovascular endurance, and body composition.

-What will being fit do for you?

Feel better, stay healthy, more energy.

INFORMATION

Body composition or how much fat your body has in comparison to muscle is the fifth aspect of fitness. Body fat should be within normal limits and muscles well developed to keep a body healthy and performing at its best. Actively engaging in a physical fitness program will help accomplish this by keeping body fat in proportion to body muscle.

Fitness is considered to be the new fountain of youth. People who are *fit* look and feel good. Research also shows that vigorous exercise helps prevent heart attacks, aids in weight control, and instill a feeling of well-being.

Concentration is increased, school or work performance can be improved, and more restful sleep is experienced by individuals who exercise regularly.

Regular vigorous exercise has been found to help people with diabetes, ulcers, nervous tension, high blood pressure, back pain, heart disease, depression, constipation, and insomnia.

AIDS

LEARNING ACTIVITIES

2. Prepare for Nutrition Super Stars Personal Fitness Test. This test will be completed in the following class. Have your physical education teacher help with testing.

AAHPERD FITNESS TEST

American Alliance for Health, Physical Education, Recreation, and Dance: Health Related Physical Fitness Test Manual. Reston, VA: AAHPERD, 1981

INFORMATION

The Nutrition Super Stars Fitness Test attempts to measure the key components of fitness: Muscle Strength and Endurance (sit up); Flexibility (sit and reach); Cardiovascular Endurance (9 minute/1 mile run); and Body Composition (skinfold fat measurement).

The tests may be given in any gymnasium or out of doors. With the exception of the sit and reach apparatus and skinfold calipers, no special equipment is required. Administering the test does, however, call for careful planning to utilize both space and time to best advantage. Stations for each test should be worked out and the various test areas clearly marked ahead of time.

Arrangements must be made for timers and for recording of all scores. Organizing the group into squads is a useful technique. Sometimes it is possible for each pupil to record his own scores as the test is given on Handouts #28 and #29, CLASS FITNESS SCORES. Sometimes, scoring by an assistant, squad captain or teacher is more practical. Scores may later be transferred to Handout #17, Body Profile Sheet.

AIDS

2. Handouts #28 #29, CLASS FITNESS SCORES

Handout #17 BODY PROFILE SHEET

Personal Fitness Test Directions, pages 73-76.

Tables, pages 77a&b-79a&b

Reference

Blue Cross/ Blue Shield Booklet FOOD AND FITNESS

LEARNING ACTIVITIES	INFORMATION	AIDS
	The students should be given reasonable warm-up prior to tne testing. A test should not be given to any student whose medical status is questionable. Be certain to follow directions exactly for each test. Only in this way will it be possible to compare the scores with the national norms. The directions for the fitness test are given in the test booklet, PERSONAL FITNESS TEST. After completion of the test, the score the student receives on each test is then compared to percentile tables attached to PERSONAL FITNESS TEST. These are *very* rough estimates of fitness. The student needs to be reminded of this. If, for example, a 10 year old girl successfully completed 35 sit ups in 60 seconds, she would be at the 45th percentile, that is, 45 percent of the students who take the test would fall below her score. The 45th to 55th percentile range is considered a measure of *average* fitness. Likewise, if a 12 year old boy ran a mile in 7 minutes and 24 seconds (7:24), he would rank at the 75th percentile or 75 percent of all students taking the test would fall below him. He would fall in the "very fit" range. It is important to remember these are *ranges* not exact physical fitness scores.	

1

NINE MINUTE/1 MILE RUN

Nine Minute Run or One Mile Run

To conduct the 1 mile or 9 minute run, you will need to have access to a measured running area (like a quarter mile or 440 yds or 400 meter track). It is essential to know the distance of the running area. You will also need to have a stop watch. As norms are given for both nine-minute run and one mile run, you have the option as to which test to run.

If you choose the one-mile run, you will need to time each student. Assign each student a number, have a recorder record time of each student as he/she completes the run.

Method of Recording

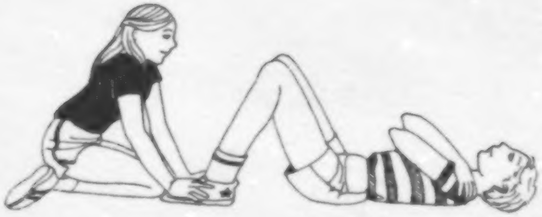
Start all students at the same time; start stop watch when you start the students. As the first student crosses the finish line, start calling out times. Recorder matches time to student's number. Knowing the distance of the track/running area allows you to record distance for the 9 minute run. Distance for the 9 minute run is whatever total distance the student covers in 9 minutes.

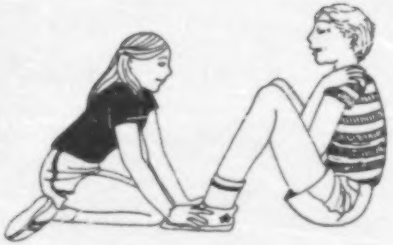
What Do The Scores Mean?

The score that the student receives on each test is then compared to percentile tables ranking by using TABLES 1 and 2 in this booklet. These are very rough estimates of fitness. The student needs to be reminded of this. If, for example, a 13 year old girl ran 1537 yards in 9 minutes, she would be at the 45th percentile, that is, 45 percent of the students who take the test would fall below her score. The 45th to 55th percentile range is considered a measure of average fitness. Likewise, if a 12 year old boy ran a mile in 7 minutes and 12 seconds (7:12), he would rank at the 80th percentile or 80 percent of all students taking the test would fall below him. He would just fall in the "very fit" range. After determining the percentile ranking, the student should record the result on Handout #26, THE BODY SHOP. It is important to remember these are ranges not exact physical fitness scores.

2

SIT-UPS





Equipment

Clean floor, mat, or dry turf and stop watch.

Description

The pupil lies on his back with his knees bent, feet on the floor with the heels between 12 and 18 inches from the buttocks. The angle at the knees should be less than 90 degrees. While lying on the floor, the pupil crosses his arms on the chest by placing his hands on the opposite shoulders. His feet are held by his partner to keep them in touch with the surface. The pupil curls to a sitting position by contracting his abdominal muscles. The arms must contact the chest at all times. The chin must remain in a tucked position. The sit up is accomplished when the elbows touch the thighs. The pupil returns to the starting position before he sits up again. The timer gives the signal "ready-go", and the sit-up performance is started on the word "go". Performance is ended on the word "stop". The number of correctly executed sit-ups performed in 60 seconds shall be the score.

Rules

1. Only one trial shall be allowed unless the teacher believes the pupil has not had a fair opportunity to perform.

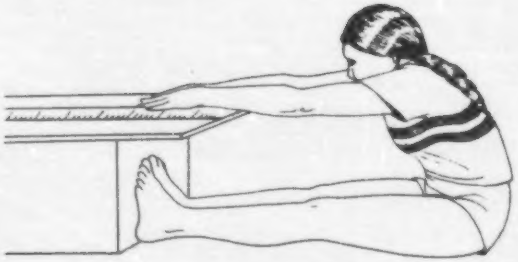
2. No resting is permitted between situps.

Scoring

Record the number of correctly executed sit-ups the pupil is able to do in 60 seconds. A foul nullifies the count for that sit-up. The watch is started on the word "go" and stopped on the word "stop". The student should compare the test score to the percentile rank by using TABLE 3. After determining the percentile ranking, the student should record the result on Handout #26, THE BODY SHOP.

3

SIT AND REACH



Equipment

The test apparatus consists of a sturdy box 12 inches high with a measuring scale placed on top. The scale's 23 cm mark is placed in line with the side against which the pupil's feet will be placed. This apparatus can be improvised by using a narrow bench and a meter stick. The test apparatus should be placed against a wall to prevent the apparatus from sliding away from the pupil.

Description

First, the student removes his shoes. Then, the pupil sits down at the test apparatus with his feet shoulder-width apart and his legs fully extended. The feet are placed flat against the side of the box. The hands are placed on top of each other and the arms are extended forward. After assuming this position, the student reaches forward along the measuring scale four times. On the fourth trial, the maximum reach is held for one second.

Rules

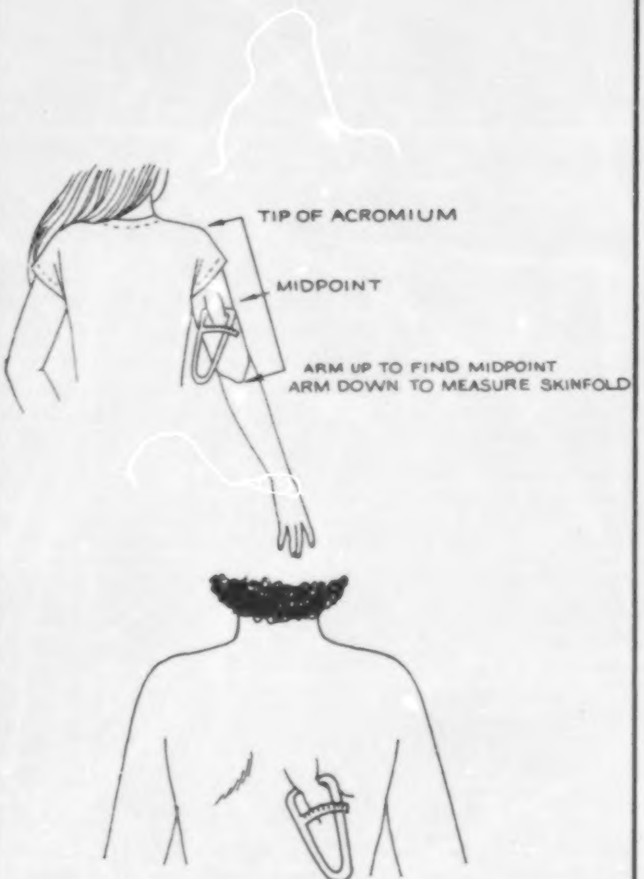
The test must be repeated if the pupil *does not* a) reach with both hands evenly; or b) keep both legs straight. The tester should place one hand on the knees to prevent the knees from bending.

Scoring

The student should compare the SIT AND REACH test score to the percentile rank by using TABLE 4. After determining the percentile ranking, the student should record the result on Handout #26, THE BODY SHOP.

4

TRICEPS/SUBSCAPULAR SKINFOLD



Equipment

The Ross Laboratories ADIPOMETER skinfold caliper is used for obtaining the skinfold fat measurements

Description

Skinfolds are made up of the skin and a layer of subcutaneous fat pulled away from the underlying muscle (see illustration). While there are a number of body sites where skinfolds can be measured, the tricep skinfold is easy to use and is a fairly accurate indicator of body fat.

Triceps skinfold is taken on the left upper arm.

1. First, measure the length of the upper arm with the forearm at a right angle to the upper arm (see illustration). Locate the bony projection at the shoulder (the tip of the acromium) and the body projection at the elbow (olecranon). Use the measuring tape to measure the distance between these two points. Find the mid-point of the upper arm and mark with a felt tip pen.

2. Drop the arm by the side of the body. Grasp the skinfold with the thumb and index finger just above the midpoint.

3. Measure the skinfold with the calipers. Apply enough pressure to the calipers so the black lines are aligned.

4. Record the skinfold measurement in millimeters on THE BODY SHOP - Handout #17.

Subscapular skinfold is also an accurate measurement for determining body fat. If time permits, this measurement can also be taken either by a nurse in the nurse's office or as a classroom demonstration with student volunteers. This measurement is taken at a point just below the bottom of the shoulder blade in the line of natural cleavage. Have the child clasp hands behind the back. Locate the bottom of the shoulder blade and mark with a felt tip pen. Grasp and measure the thickness of the skinfold just below your marked point. (see illustration). Measure the skinfold with the calipers. Record the measurement on THE BODY SHOP - Handout #17.

Scoring

The skinfold measurement is registered on the caliper's scale which measures from 0-60mm in 2mm increments. Measure the skinfold three times. Then record the average of the three measurements. If the three measurements are 12, 10, and 14, the number recorded will be 12. The recommended procedure is to measure the sum of the tricep and sub-scapular skinfold. However, the tricep skinfold is recommended if only one skinfold is measured. The student should compare the skinfold test score to the percentile rank by using TABLES 5 and 6. After determining the percentile ranking, the student should record the result on Handout #26, THE BODY SHOP.

Hunsicker, Paul, and Guy G. Reiff. *AAHPER Youth Fitness Test Manual*. 1976 ed. Washington, D.C.: American Alliance for Health, Physical Education, and Recreation, 1976.

TABLE 1

GIRLS							BOYS				
NINE MINUTE RUN (Yards)							NINE MINUTE RUN (Yards)				
AGE					PERCENTILE		AGE				
9	10	11	12	13			9	10	11	12	13
2300	2240	2170	2370	2197		100th	2450	2526	2520	2880	2615
2050	2067	2000	2175	2085		95th	2175	2250	2250	2400	2402
1870	1900	1930	2070	2005	VERY	90th	2040	2120	2109	2175	2320
1770	1780	1833	1940	1899	FIT	85th	1940	2013	2025	2042	2213
1700	1750	1780	1840	1837		80th	1875	1950	1970	2000	2150
1650	1650	1723	1760	1785		75th	1835	1910	1925	1975	2096
1590	1596	1650	1733	1738	ABOVE AVERAGE	70th	1800	1859	1890	1900	2049
1540	1567	1620	1700	1698		65th	1760	1810	1860	1860	2000
1515	1525	1570	1690	1655		60th	1740	1780	1808	1810	1964
1475	1490	1539	1650	1617		55th	1695	1725	1770	1790	1926
1425	1460	1480	1590	1577	AVERAGE	50th	1660	1690	1725	1760	1885
1390	1425	1460	1542	1537		45th	1625	1633	1690	1740	1844
1350	1375	1405	1500	1499	NEEDS	40th	1600	1600	1640	1680	1806
1320	1345	1380	1475	1456	SOME	35th	1537	1584	1600	1620	1762
1290	1290	1356	1420	1416	WORK	30th	1490	1536	1575	1590	1721
1243	1250	1345	1356	1369		25th	1440	1487	1540	1500	1674
1225	1230	1300	1220	1317	NEEDS A	20th	1370	1420	1440	1450	1620
1130	1180	1200	1200	1255	LOT OF	15th	1310	1356	1390	1356	1557
1080	1100	1125	1130	1149	WORK	10th	1243	1250	1275	1300	1450
960	940	904	1000	1069		5th	1104	1110	1170	1000	1368

Hunsicker, Paul, and Guy G. Reiff. AAHPER Youth Fitness Test Manual. 1976 ed. Washington, D.C.: American Alliance for Health, Physical Education, and Recreation, 1976.

TABLE 2

GIRLS ONE MILE RUN (TIME) AGE					PERCENTILE		BOYS ONE MILE RUN (TIME) AGE				
9	10	11	12	13			9	10	11	12	13
7:21	7:09	7:07	6:57	6:20	VERY FIT	100th	6:43	6:25	6:04	5:40	5:44
8:24	7:59	7:46	7:26	7:10		95th	7:17	6:56	6:50	6:27	6:11
8:44	8:30	8:10	7:44	7:45		90th	7:29	7:26	7:19	6:44	6:22
9:08	8:50	8:36	8:05	8:01		85th	8:00	7:40	7:30	6:57	6:33
9:31	9:10	8:57	8:18	8:12		80th	8:22	7:57	7:48	7:12	6:42
9:58	9:30	9:12	8:36	8:18		75th	8:36	8:10	8:00	7:24	6:52
10:07	9:47	9:29	8:55	8:27	ABOVE AVERAGE	70th	8:50	8:23	8:08	7:37	7:00
10:17	10:02	9:44	9:08	8:41		65th	9:02	8:34	8:21	7:48	7:06
10:32	10:23	10:00	9:21	8:56		60th	9:14	8:49	8:39	7:59	7:14
10:56	10:49	10:16	9:33	9:14	AVERAGE	55th	9:30	9:03	8:59	8:08	7:20
11:12	11:06	10:27	9:47	9:27		50th	9:56	9:19	9:06	8:20	7:27
11:29	11:24	10:56	10:05	9:37		45th	10:24	9:34	9:25	8:34	7:40
12:00	11:41	11:12	10:22	9:57	NEEDS SOME WORK	40th	11:01	9:45	9:46	8:51	7:51
12:20	11:51	11:29	10:39	10:12		35th	11:25	10:10	10:10	9:10	8:02
12:42	12:09	11:51	11:00	10:31		30th	11:44	10:38	10:40	9:30	8:24
13:18	12:54	12:10	11:35	10:56	NEEDS A LOTS OF WORK	25th	12:00	11:05	11:31	10:00	8:35
13:52	13:31	12:36	11:57	11:23		20th	12:25	11:31	12:02	10:42	8:50
14:22	14:00	13:16	12:35	12:20		15th	13:21	12:11	12:40	11:20	9:09
15:25	15:12	14:41	13:34	13:09		10th	14:19	13:00	13:37	12:07	9:39
16:42	17:00	16:56	14:46	14:55		5th	15:94	14:28	15:25	13:41	10:23

77b

Hunsicker, Paul, and Guy G. Reiff. *AAHPER Youth Fitness Test Manual.* 1976 ed. Washington, D.C.: American Alliance for Health, Physical Education, and Recreation, 1976.

TABLE 3

PERCENTILE SCORES BASED ON AGE/TEST SCORES IN NUMBER OF SIT-UPS PERFORMED IN SIXTY SECONDS

SIT-UP FOR GIRLS (FLEXED LEG)

PERCENTILE		AGE			
		9 - 10	11	12	13
VERY FIT	100th	54	55	61	60
	95th	47	50	52	51
	90th	44	46	48	48
	85th	41	44	45	46
	80th	40	42	43	43
	75th	39	40	41	41
ABOVE AVERAGE	70th	37	39	40	40
	65th	35	37	40	39
	60th	34	36	39	37
AVERAGE	55th	33	35	37	36
	50th	32	34	36	35
	45th	30	33	35	34
NEEDS SOME WORK	40th	29	32	33	33
	35th	28	30	32	32
	30th	26	29	31	30
NEEDS A LOT OF WORK	25th	25	28	30	29
	20th	23	26	29	27
	15th	21	24	27	25
	10th	19	21	23	23
	5th	15	19	19	18
	0th	0	0	0	0

SIT-UP FOR BOYS (FLEXED LEG)

PERCENTILE		AGE			
		9 - 10	11	12	13
VERY FIT	100th	59	61	68	70
	95th	50	51	56	58
	90th	47	48	52	54
	85th	44	46	50	52
	80th	42	44	48	50
	75th	40	42	46	48
ABOVE AVERAGE	70th	39	41	45	46
	65th	37	40	43	45
	60th	36	39	42	44
AVERAGE	55th	35	38	40	42
	50th	34	37	39	41
	45th	33	35	38	40
NEEDS SOME WORK	40th	31	34	36	39
	35th	30	33	35	38
	30th	29	31	33	36
NEEDS A LOT OF WORK	25th	27	30	31	35
	20th	25	28	30	33
	15th	23	26	28	31
	10th	19	23	25	29
	5th	15	17	19	25
	0th	2	0	0	2

Hunsicker, Paul, and Guy G. Reiff. *AAHPER Youth Fitness Test Manual.* 1976 ed. Washington, D.C.: American Alliance for Health, Physical Education, and Recreation, 1976.

TABLE 4

GIRLS							BOYS				
SIT AND REACH (cm)							SIT AND REACH (cm)				
AGE					PERCENTILE		AGE				
9	10	11	12	13			9	10	11	12	13
39	41	41	46	49	VERY FIT	100th	37	37	38	42	41
35	35	37	40	43		95th	34	33	34	35	36
34	34	36	38	40		90th	32	31	32	32	34
33	33	34	36	38		85th	31	30	31	31	33
32	32	33	35	37		80th	30	29	30	30	32
31	31	32	34	36		75th	29	28	29	29	30
30	30	31	33	35	ABOVE AVERAGE	70th	28	28	28	29	29
30	30	30	32	33		65th	28	27	27	28	28
29	29	30	32	32		60th	27	26	26	27	27
28	28	29	31	31	AVERAGE	55th	26	26	26	27	27
28	28	29	30	31		50th	25	25	25	26	26
27	27	28	29	30		45th	25	24	24	25	25
26	27	27	28	29	NEEDS SOME WORK	40th	24	23	23	24	24
25	26	26	27	27		35th	23	22	23	23	23
24	25	25	26	26		30th	22	21	22	22	22
23	24	24	25	24	NEEDS A LOT OF WORK	25th	22	20	21	21	20
22	22	23	23	23		20th	21	19	20	20	19
21	21	22	22	22		15th	20	18	18	18	18
20	19	20	20	20		10th	18	17	16	16	15
17	16	16	15	17		5th	16	12	12	13	12

Hunsicker, Paul, and Guy G. Reiff. *AAHPER Youth Fitness Test Manual.* 1976 ed. Washington, D.C.: American Alliance for Health, Physical Education, and Recreation, 1976.

TABLE 5

GIRLS							BOYS				
TRICEP SKINFOLD (mm)							TRICEP SKINFOLD (mm)				
AGE					PERCENTILE		AGE				
9	10	11	12	13			9	10	11	12	13
5	5	6	6	6	WEIGHT REDUCTION SHOULD NOT BE CONSIDERED	95th	6	6	5	5	4
6	6	7	7	7		90th	7	7	6	6	5
7	7	9	9	9	ABOVE AVERAGE	75th	9	9	7	7	7
8	9	12	12	12		50th	11	12	10	9	9
12	12	15	16	17	AVERAGE	25th	14	15	14	13	13
16	16	20	22	23	WEIGHT REDUCTION MIGHT BE CONSIDERED	10th	19	20	19	20	19
20	20	23	25	26		5th	22	23	22	23	23

Nutrition Super Stars

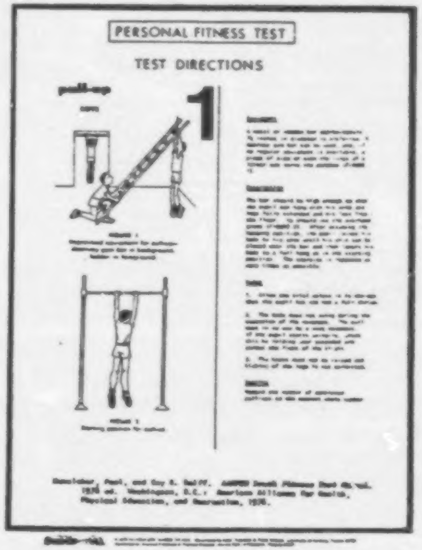
Hunsicker, Paul, and Guy G. Reiff. *AAHPER Youth Fitness Test Manual.*
1976 ed. Washington, D.C.: American Alliance for Health,
Physical Education, and Recreation, 1976.

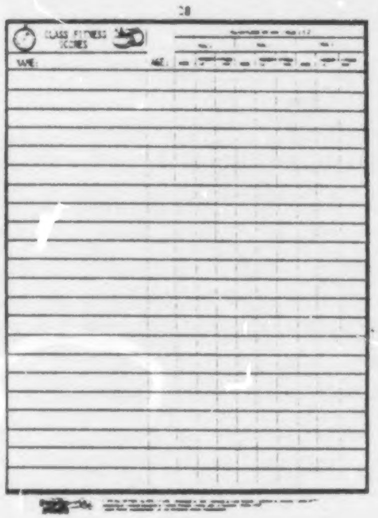
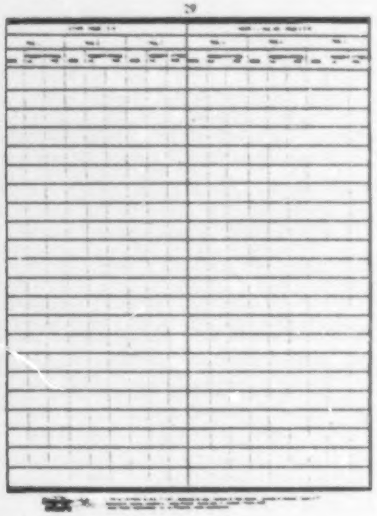
TABLE 6

GIRLS SUM OF TRICEPS PLUS SUBSCAPULAR SKINFOLD (mm) AGE 9	10	11	12	13	PERCENTILE		BOYS SUM OF TRICEPS PLUS SUBSCAPULAR SKINFOLD (mm) AGE 9	10	11	12	13
9	9	8	9	10	WEIGHT REDUCTION SHOULD NOT BE CONSIDERED	100th	7	7	8	8	7
10	10	11	11	12		95th	9	9	9	9	9
12	12	12	12	13		90th	10	10	10	10	10
12	13	13	13	14	ABOVE AVERAGE	85th	10	11	11	10	10
13	13	14	14	15		80th	11	11	12	11	11
14	14	15	15	16		75th	11	12	12	11	12
15	15	16	16	17		70th	12	12	12	12	12
15	16	16	17	18		65th	12	13	13	13	12
16	17	17	17	19		60th	13	13	14	13	13
16	18	18	19	20		55th	13	14	15	14	14
17	18	19	19	20		50th	14	14	16	15	15
18	20	20	21	22	AVERAGE	45th	14	15	16	15	16
19	20	21	22	23		40th	15	16	17	16	17
20	22	22	24	25		35th	16	17	19	17	18
22	24	23	25	27		30th	17	18	20	19	19
24	25	25	27	30		25th	18	19	22	21	22
26	28	28	31	33	WEIGHT REDUCTION MIGHT BE CONSIDERED	20th	20	21	24	24	25
29	31	31	35	39		15th	23	24	28	27	29
34	35	36	40	43		10th	26	28	33	33	36
40	41	42	48	51		5th	34	33	38	44	46

NUTRITION Super Stars

LESSON IV
CLASS 14
OBJECTIVES 27, 28

LEARNING ACTIVITIES	INFORMATION	AIDS
1. Complete Personal Fitness Test.  PERSONAL FITNESS TEST TEST DIRECTIONS pull-up 1	The Nutrition Super Stars Personal Fitness Test may be given again toward the end of the program to measure changes in students' levels of physical fitness. 	1. Personal Fitness Test Directions, pages 73-76 Tables, pages 77-79 Materials Stop watch

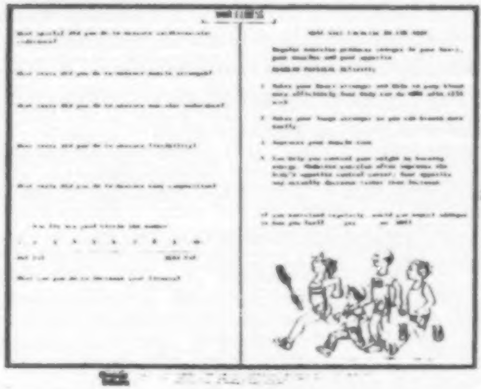
LEARNING ACTIVITIES	INFORMATION	AIDS
2. Record student fitness test scores on Handouts #28 and #29 CLASS FITNESS SCORES under Trial 1.	If the Personal Fitness Test is repeated later in the program, record the successive scores under Trial 2 and Trial 3. These additional test session scores can also be later transferred to Handout #17, BODY PROFILE SHEET. 28  29 	2. Handouts #28 and #29 CLASS FITNESS SCORES Handout #17 BODY PROFILE SHEET

NUTRITION Super Stars

LESSON IV
CLASS 15
OBJECTIVES 25, 26, 29-32

LEARNING ACTIVITIES

1. Ⓣ Handout #30 - YOUR FITNESS



DISCUSSION QUESTION:

-What is the purpose of exercise?

Exercise serves not one but many purposes. It can improve flexibility, build muscle strength and tone, relieve tension, help weight loss, and improve the body's general condition.

INFORMATION

A physically fit individual has endurance, strength, flexibility and cardiovascular fitness. We measured these components of fitness with the personal physical fitness test in the last class. The results of this test help to determine how fit your students are.

How well did your students score on the fitness test? Very fit! Above average! Average, or needs some work?

Regular exercise can help improve fitness by producting beneficial changes in the condition of the heart, lungs, and muscles. Exercise can also cause a change in appetite. Increasing your activity from sedentary to a moderate level does not necessarily stimulate your appetite. It, in fact, may contribute to a reduction in food intake.

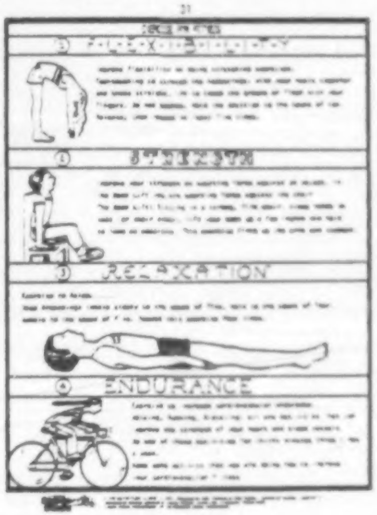
No Thanks! I'm eating less, now that I'm exercising more!

AIDS

1. Handout #30 YOUR FITNESS

LEARNING ACTIVITIES

2. Handout #31 - EXERCISE FOR FITNESS



31

① FLEXIBILITY

② STRENGTH

③ RELAXATION

④ ENDURANCE

You and your students can begin to shape-up right in class. Practice some exercises between class periods, or as a quick wake-up break during a sleepy afternoon.

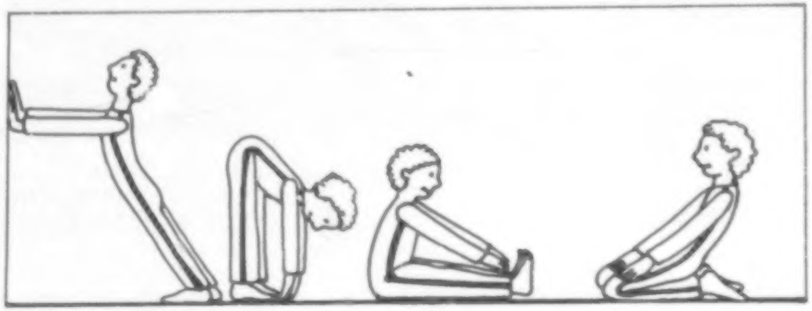
If possible, have your physical education teacher help demonstrate some of the following exercises:

a. Demonstrate exercise 1 FLEXIBILITY. Have your students do this exercise. Examples of flexibility exercises are sitting stretches, shin or achilles tendon stretch.

INFORMATION

Heading down the road to fitness, students should choose activities they enjoy doing. Fitness should be fun, not frustrating.

Let us look at different types of exercises which develop your flexibility, strength, and cardiovascular endurance.



Flexibility

By the time children become teenagers, many have lost a great deal of flexibility in their joints. Boys tend to lose flexibility more than girls. This is because they often participate in sports, like football and baseball, which limit movement in their bodies through a large range of motion. Girls, however, participate in more activities which require greater flexibility, like dance, gymnastics. Loss of flexibility increases the risk of athletic injuries and pain in body areas like the back and neck. To avoid these problems, stretching exercises for improving flexibility should be worked on consistently and regularly. It should be remembered that flexibility should be increased gradually. During stretching exercises, you should never overstretch beyond the threshold of pain or bounce. Bouncing may cause pulls or tears in muscles and muscle cramps.

AIDS

2. Handout #31 EXERCISE FOR FITNESS

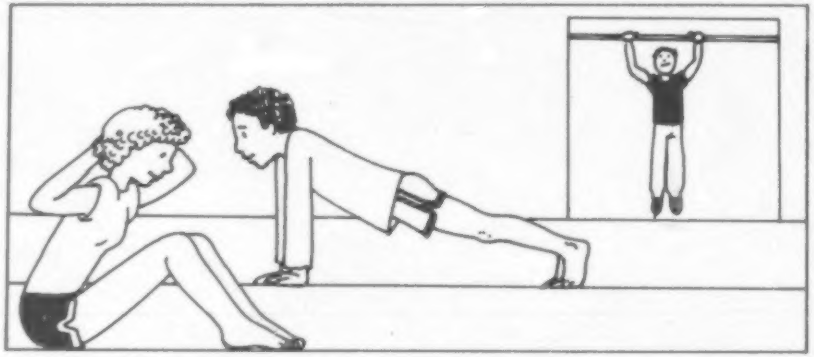
References

FUELS FOR MUSCLE POWER, pages 127-128

LEARNING ACTIVITIES

b. Demonstrate exercise 2 STRENGTH. Have your students do this exercise. Examples of strength exercises are push-ups, pull-ups, and sit-ups.

INFORMATION

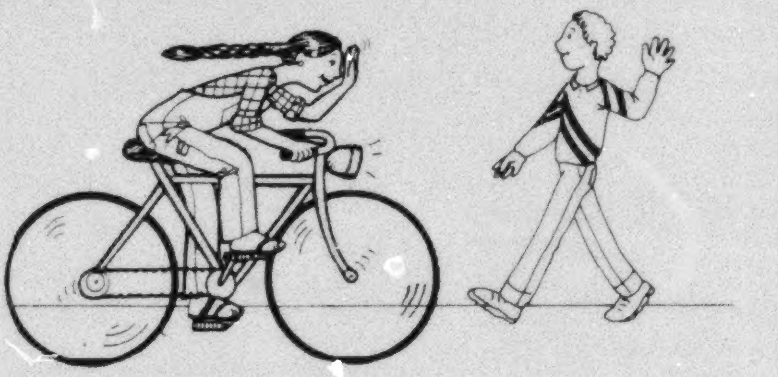
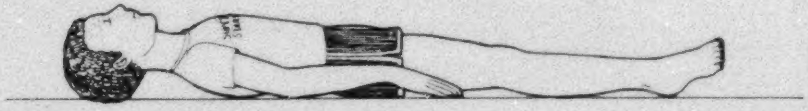


Strength

Muscle strength is very important for both boys and girls. It provides a valuable reserve for endurance sports and power for many activities. Muscle strength also helps to prevent injuries. Until a child reaches puberty, this type of fitness is hard to develop. It is better with children up to 10 years of age for girls, and about 11 or 12 for boys, to emphasize exercises which require the use of the entire body. Until they have reached puberty, systematically developing muscle strength through activities such as weight training should not be encouraged.

You can improve your muscle strength by exerting force against resisting objects. For students who have reached puberty, this can be done using weights or exercise machines. Body weight can also be used as resistance for children of any age and eliminates the need for equipment. A lot of muscle power is needed to lift your body weight against gravity. Students should be encouraged to increase their muscle strength through exercises which use their body weight as resistance.

AIDS

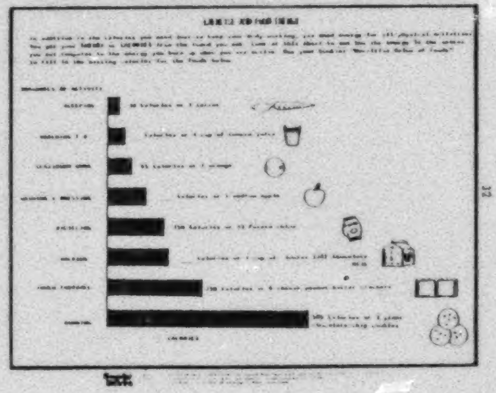
LEARNING ACTIVITIES	INFORMATION	AIDS
c. Have students name some exercises which improve cardiovascular fitness or better yet, have class join together in an activity on a regular basis. Activities which will increase cardiovascular fitness are walking briskly, running, bicycling, swimming, jumping jope, and dancing. 	Endurance The most important factor for any physical fitness program is endurance. Endurance exercises, like walking, running, swimming, cycling and dancing use large muscle areas rhythmically for a long period of time. This type of exercising helps achieve a healthy cardiovascular system by improving the strength of the heart and improving circulation of the blood. To achieve cardiovascular fitness, you must push your heart beat to its training heart rate for at least 30 minutes three times a week. We will discuss this in more detail in future classes. 	
d. Demonstrate exercise 3 RELAXATION. Have your students do this exercise. An example of a relaxation exercise is muscle tensing. *Muscle tensing* - have students kneel on floor, sitting back on their heels OR sitting in chairs. Have students slowly tense all of their muscles until they are completely rigid, hold for count of five, then relax. Repeat this exercise five times.	Exercises for *relaxation* are also very important in any physical fitness program. It is the perfect way to relieve nervous tension, and you may find yourself accomplishing more during the day if you learn to relax. 	

LEARNING ACTIVITIES

Discuss with your students ways to maintain or improve their physical fitness with exercise.

> Your physical education teacher may be able to help you and your students find physical fitness programs in your community.

3. Handout #32 - EXERCISE AND FOOD ENERGY



This handout is used to match energy output for activities and food energy content of snacks.

DISCUSSION QUESTIONS:

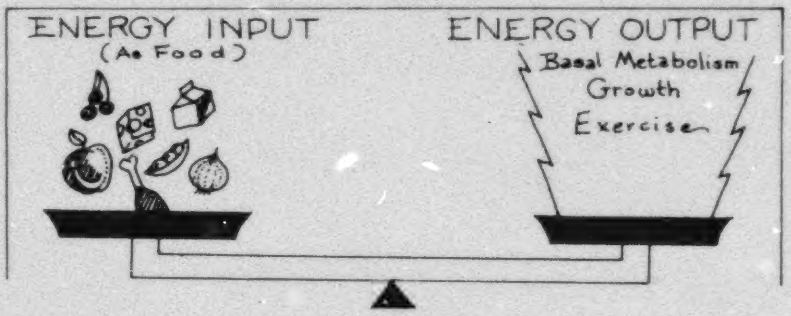
-What is energy input?

Calories in the food we eat.

INFORMATION

Your basal metabolic rate (BMR) and energy output for activities will determine your energy (*calorie*) need for the day.

Balancing energy input with energy output is the key to weight control.



Weight is gained when more energy is put into the body than is put out in activity. So, to gain weight you will have to eat more calories than you are using.

Weight is lost when more energy is put out than is put into your body. To lose weight, it is necessary to use more calories than are in the food you eat. This can be done by eating less and exercising more. A weight loss of 1-2 pounds a week is safest for your health. One pound of fat is equivalent to 3500 calories. To lose one pound a week without exercising more, you will have to eat 500 fewer calories each day (3500 ÷ 7 = 500).

AIDS

3. Handout #32 EXERCISE AND FOOD ENERGY

LEARNING ACTIVITIES

-What is energy output?

Calories used for basal metabolism, growth, and exercise.

-What is basal metabolism?

Basal Metabolism: The amount of energy needed by your body, at complete rest for breathing, blood circulation, heart beat, and body temperature.

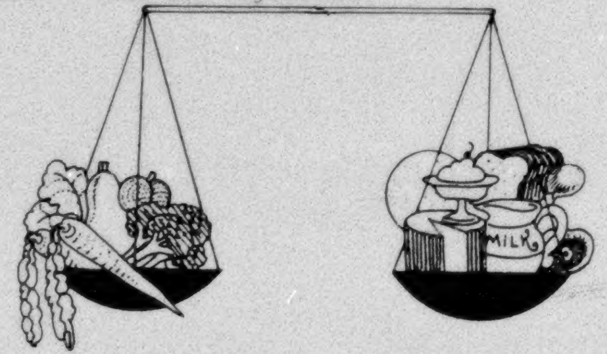
INFORMATION

Regular vigorous exercise can increase your BMR. However, any type of exercise - from hanging laundry and scrubbing floors to badminton or long distance running - can help you control your weight. The more you move, the more calories you burn.

As mentioned earlier, exercise causes a change in your appetite. Moderate exercise often improves the accuracy of your body's appetite control mechanism and will frequently DECREASE rather than increase appetite. This is an added benefit of exercising when weight control is needed.

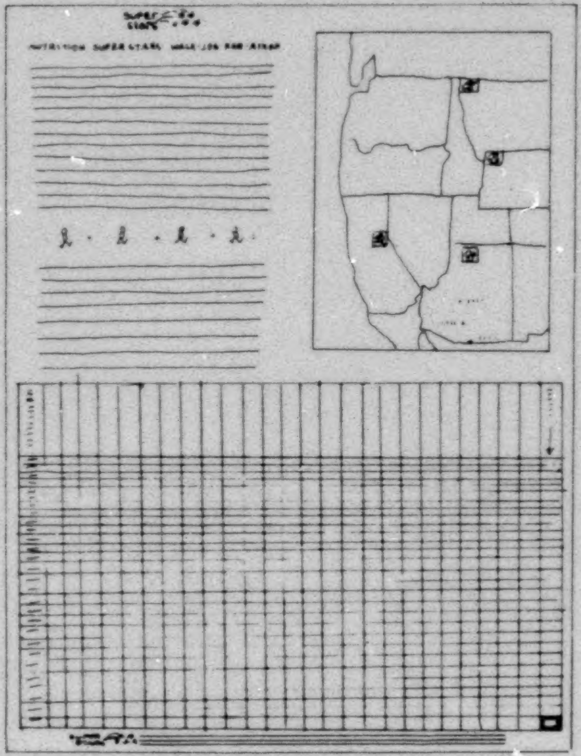
Remember, to stay at a constant weight, the calories in foods eaten must equal the calories needed by the body for basal metabolism, for growth, and for muscular work or exercise.

These calories should come from a good diet based on meat, milk, fish, poultry and eggs, whole-grain cereals, beans, other legumes and nuts, leafy green vegetables, and other fruits and vegetables.



Your diet should include well-balanced proportions of CARBOHYDRATES, FATS, and PROTEIN to fuel your muscles. Eating right from the five food groups and exercising will help you become a Nutrition Super Star. In the next lesson we will learn how to *fuel* a Nutrition Super Star.

AIDS

LEARNING ACTIVITIES	INFORMATION	AIDS
4. BONUS ACTIVITY: Your students can be encouraged to increase their physical activity by participating in THE NUTRITION SUPER STARS WALK-JOG-RUN-ATHON. This activity requires the students to walk, run, or jog. The miles are recorded to determine how long it takes the class to reach a recreational area in the Western U.S. or to see how far they have traveled in a weeks time. It's also fun to have other states or even other countries as destination points.		The Nutrition Super Stars Walk-Jog-Run-Athon Poster, page 129 The Nutrition Super Stars Walk-Jog-Run-Athon Tally Sheet, page 130

LESSON V FUELING A "SUPER STAR"

Objectives

Class 16 - Dental Health
Snacks and Calories

Class 17 - Nutrient Density

Class 18 - Goals for Healthful Eating
School Lunch

Class 19 - Nutrition - Fitness Case Studies

Class 20 - Nutrition Information Evaluation
Community Nutrition Services
Nutrition Super Stars Snack Party

NUTRITION Super Stars

LESSON V - FUELING A SUPER STAR

CONCEPT Help yourself to good health by applying nutrition and fitness knowledge when making food-snack and activity choices.

CLASSES 16-20

OBJECTIVES

33. Identify-Explain. Their eating patterns which prevent/or promote dental caries.

34. Identify. High nutrient-density and low nutrient nutrient-density foods/snacks definitions.

35. Identify-Explain. Why foods with high nutrient-density make the best snack choices.

36. Identify-Explain. Why foods with low nutrient-density make poor snack choices.

37. Identify-List. Calorie content of high or low nutrient-density snacks they like and eat.

38. Identify. Ways to increase intake of high nutrient-density snacks/foods and decrease intake of low nutrient-density snacks/foods.

INSTRUCTIONAL AIDS

CLASS NUMBER	AIDS
16	Handout #33 - DETERGENT FOODS - CARIOGENIC FOODS - IT'S YOUR CHOICE Handout #34 - SNACK FOOD CALORIES References - NUTRITIVE VALUE OF FOODS CALORIES AND WEIGHT FAST FOOD NUTRIENT ANALYSIS, pg. 131 ARIZONA FOOD NUTRIENT ANALYSIS, pg. 133 FOOD MODELS Poster - HAVE A HEALTHY SMILE Materials - Red Disclosing Tablets

OBJECTIVES

39. Identify. Plan for eating and other activities which will help maintain or improve their health status.

40. Evaluate. How well their plan works.

41. Explain. Problems encountered in following their plan and how they try to solve those problems.

42. Identify. How to evaluate reliable and unreliable nutrition information.

43. Plan. Class party budget and rating nutrient-density of menu items.

INSTRUCTIONAL AIDS

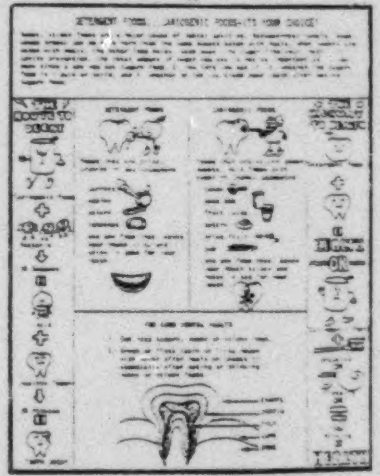
CLASS NUMBER	AIDS
17	Handout #35 - SNACKING - THE CHOICE IS YOURS
	Reference - GUIDE TO GOOD EATING Poster
	YOUR DIET YOUR HEALTH Poster
	FOOD MODELS
	FOOD, Home & Garden Bulletin #228
	NUTRITION CONCEPTS AND CONTROVERSIES
	Poster - WHAT MAKES A SNACK GOOD FOR YOU?
	Poster - NUTRITION SCOREBOARD
	Handout - NUTRITION SCOREBOARD, pages 135-136
	Handout #36 - SUPER SNACKS
	Poster - SNACKS: CHOICE OR CHANCE
18	Handout #37 - EATING ON THE RIGHT TRACK
	Handout #38 - EXERCISE ENERGY
	Handout #39 - PLAN A SCHOOL LUNCH
	References - Food Models
	NUTRITION AND YOUR HEALTH - Dietary Guidelines
	NUTRITION CONCEPTS AND CONTROVERSIES
19	Handouts #40 & 41 - BE A NUTRITION SUPER STAR - THE CHOICE IS YOURS
	Handout #42 - AEROBIC SUPER STARS
20	Handout #43 - NUTRITION SUPER STARS FIND THE FACTS
	Handout #44 - FIESTA FOOD

NUTRITION Super Stars

LESSON V
CLASS 16
OBJECTIVES 30-33

LEARNING ACTIVITIES

1. Handout #33 - DETERGENT FOODS CARIOGENIC FOODS - IT'S YOUR CHOICE



DISCUSSION QUESTIONS:

-What kinds of foods are detergent foods?
Crisp foods, crunchy foods, foods without refined sugar, foods like celery, apples, carrots.

INFORMATION

Problems of dental health are widespread in America. These problems can have many harmful effects, including pain, expense, and illness.

Tooth decay or dental *caries* is caused by bacteria and sugar in food. Bacteria in the mouth live on the teeth and product a sticky substance called *dextran*. Dextran is an important part of *plaque*. Plaque is the thin transparent film composed of saliva, bacteria, and food debris that is constantly formed over the surfaces of the teeth. The *dextran* in plaque holds bacteria on the surfaces of the teeth. Bacteria change sugars into acid which breakdown the enamel of a tooth. Bacteria can then start spreading through the tooth destroying it. The destroyed part of the tooth is the dental carie or cavity. If plaque is not removed, it hardens into *calculus* and accelerates the tooth decay process.

AIDS

1. Handout #33 DETERGENT FOODS - CARIOGENIC FOODS - IT'S YOUR CHOICE

Poster

HAVE A HEALTHY SMILE

LEARNING ACTIVITIES

-What kinds of foods are cariogenic foods?

Foods with high sugar content, sticky sweet foods, foods like soda pop, candy, dried fruit.

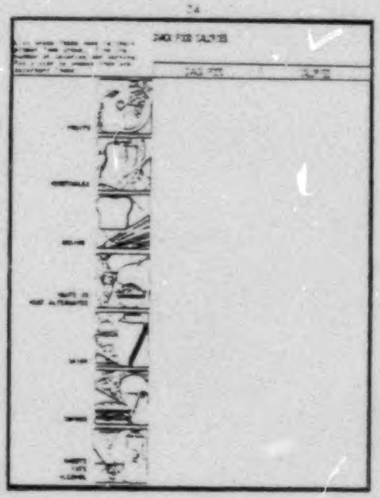
-What do brushing and eating detergent foods do for your teeth?

Help clean plaque -- saliva, bacteria, and food debris from teeth.

-What kinds of eating habits promote good dental health?

Avoid frequently eating cariogenic foods - sticky sweet foods; if cariogenic foods are eaten, brush or eat them with detergent foods; eat detergent foods.

2. Handout #34 - SNACK FOOD CALORIES



INFORMATION

While research indicates that dental decay is caused by bacteria, a person's diet and heredity also play an important part. If a person's diet discourages bacterial growth, there is usually little or no decay. Also, if a person has inherited a protective mechanism that will not permit decay producing bacteria to grow or will neutralize acids, little or no decay will occur. Heredity cannot be changed, diet can.

Foods are basically two types: *detergent* and *cariogenic*. *Detergent foods* are those foods which have a cleansing quality. Examples of *detergent foods* include crisp, crunchy foods like celery, apples, carrots. These foods do not include foods which contain lots of simple carbohydrates. *Cariogenic foods* are those foods that encourage the growth of bacteria which increases the production of acid and the probability of tooth decay. Examples of *cariogenic foods* are foods with a high sugar content or sticky foods such as candy, soda pop, and dried fruit. These foods when eaten by themselves promote the growth of bacteria which increases the production of acid and the probability of tooth decay. You can decrease the probability of tooth decay if you immediately brush your teeth after eating *cariogenic foods* or if you eat *cariogenic foods* with meals that include *detergent foods*.

Dentists stress proper cleaning of teeth and gums. They recommend brushing or flossing at least once a day. Cleaning teeth helps remove plaque which thus removes the bacteria on the teeth. Regular visits to your dentist, brushing and flossing and infrequently eating *cariogenic foods* will promote healthy teeth and gums.

AIDS

2. Handout #34 SNACK FOOD CALORIES

References

NUTRITIVE VALUE OF FOODS

FAST FOOD NUTRIENT ANALYSIS, pages 131-132

ARIZONA FOOD NUTRIENT ANALYSIS, pages 133-134

FOOD MODELS

LEARNING ACTIVITIES

Handout #34 may be used to reinforce the concept of calories.

3. Divide the class into three groups. Have group one use disclosing tablets only. (one tablet per student) Have group two bring their toothbrushes to school, brush their teeth, and use disclosing tablets. Optional: Have group three bring their toothbrushes to school, floss their teeth, brush them, and use disclosing tablets. Observe and discuss the results.

DISCUSSION QUESTIONS:

-Which group has the least amount of red color on their teeth?

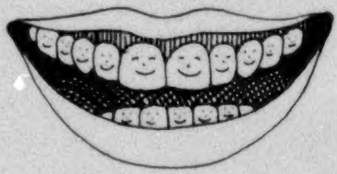
The group that brushed and flossed their teeth.

-Which group has the greatest amount of red color on their teeth?

The group that neither brushed nor flossed.

INFORMATION

The red color in disclosing tablets sticks to plaque on the teeth. The more plaque on the teeth, the more red color they will have. This experiment is a good way for students to actually see tartar on teeth and how brushing and flossing help remove the decay promoting plaque. You may also want to have a group of students eat some detergent foods and compare the plaque on their teeth with those who brushed and flossed.



AIDS

References

CALORIES AND WEIGHT

3. Red disclosing tablets

NUTRITION Super Stars

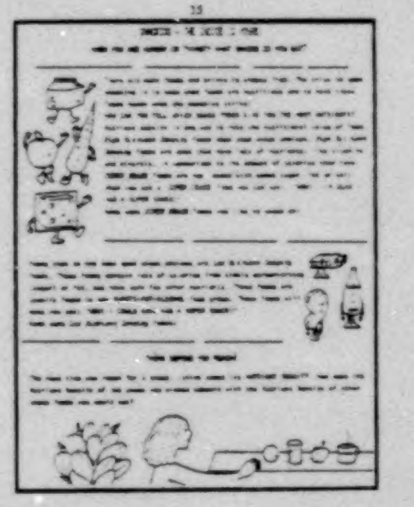
LESSON V

CLASS 17

OBJECTIVES 34-38

LEARNING ACTIVITIES

Handout #35 - SNACKING - THE CHOICE IS YOURS



INFORMATION

A nutritionally adequate diet is one which supplies all of the nutrients - protein, carbohydrate, fats, vitamins, minerals, water - which our body needs and at the same time provides us with the calories necessary to maintain our ideal body weight. Nutritionists have developed a food guide which is designed to help you easily choose what to eat.

The food guide divides commonly eaten foods into five groups according to their nutritional content. By following the guide, you and your students will be able to choose a variety of foods for their vitamins, minerals, protein, carbohydrate and fat as well as calorie content.

Each group in the guide contains foods which are similar in origin and nutrient content.

1. *Meat* and *Meat Substitutes* Group contains beef, poultry, eggs, dried peas and beans which are especially good sources of protein, iron, thiamin, riboflavin, and niacin.

2. *Milk* and *Milk Products* Group contains milk, yogurt, cottage cheese and cheese which are especially good sources of calcium, protein, thiamin, and riboflavin.

3. *Fruits* and *Vegetables* Group contain food that are especially good sources of Vitamin A and Vitamin C as well as thiamin and riboflavin.

AIDS

1. Handout #35 SNACKING - THE CHOICE IS YOURS

References

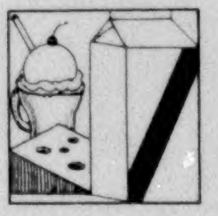
GUIDE TO GOOD EATING or YOUR DIET YOUR HEALTH Posters

FOOD MODELS

FOOD, Home and Garden Bulletin #228

NUTRITION CONCEPTS AND CONTROVERSIES

LEARNING ACTIVITIES



INFORMATION

4. *Grains* and *Grain Products* Group includes whole grain and enriched flour products which are especially good sources of carbohydrate, thiamin, niacin, riboflavin, and iron.

5. *Fats*, *Sweets* and *Alcohol* Group is composed of low nutrient density foods which contain calories but few other nutrients.

RDA

The five food groups are not the only guide for a balanced diet. Foods/Meals can be planned around the Recommended Dietary Allowances (RDA) - a plan that indicates how much needs to be consumed to get the necessary proportion of each essential nutrient. The RDA, compiled by the Committee on Dietary Allowance of the Food and Nutrition Board of the National Research Council, meet the known nutritional needs of practically all healthy persons for specified age and sex groupings.

The RDA do not represent requirements for an individual; rather they are *average* daily amounts of nutrients that *population groups* should consume over time. Except for energy, the RDA's are estimated to *exceed* the needs of most individuals, thus insuring that the needs of nearly all persons are met.

AIDS

LEARNING ACTIVITIES

INFORMATION

AIDS

The RDA apply only to *healthy* populations and do not take into account special needs arising from such problems as infections, chronic disease, and the use of medication that require special measures.

The RDA are reviewed and updated periodically. It should not be surprising that the RDA changes from time to time. It would be more surprising and indeed, scientifically unsound, if they were never changed.

The U.S. RECOMMENDED DIETARY ALLOWANCES (U.S. RDA) were developed by the Food and Drug Administration (FDA) for the nutrition labeling of foods. The U.S. RDA is currently based on the 1968 RDA and replace the Minimum Daily Requirements.

The U.S. RDA is an index of the nutritive value of foods. It can be used to compare the nutritive contributions of foods to your total diet. The U.S. RDA gives the amounts of protein, selected vitamins and minerals used as standards in nutrition labeling. Separate U.S. RDAs have been established for infants, children under four, individuals four years and older, and pregnant or lactating women.

LEARNING ACTIVITIES	INFORMATION	AIDS
	The U.S. RDA is generally the highest level of the RDA for a few selected nutrients in each age category. It is important to realize that the nutrient information on a food label is limited. Only a *few* essential nutrients are there. A highly-fortified food, like some cereals, containing 100 percent of the nutrients will not necessarily provide any of the many other nutrients essential for good health.	
2 Poster: WHAT MAKES A SNACK GOOD FOR YOU? -Discuss with students the poster: WHAT MAKES A SNACK GOOD FOR YOU? *High nutrient-density foods give us the nutrients we need without giving us lots of calories. Foods from the five food groups that are low in sugar, fat, and sodium make good snack foods.*	**Nutrient Density**	2. Poster: WHAT MAKES A SNACK GOOD FOR YOU?
3. Discuss with students the poster: NUTRITION SCOREBOARD. *High nutrient-density foods have high nutritional scores. Low nutrient-density foods have low nutritional scores.*	Another guide for selecting nutritious food is the nutrient density rating of foods. Nutrient-density (expressed as a ratio) can be used to describe the nutritional quality of a food. Nutrient-density refers to the ratio of nutrients to calories in a food. The *numerator* is the nutrient composition of the food supply or the diet, or the meal, or the individual food. The *denominator*, the other component of the ratio, is a recommended daily allowances for nutrients. Both components are expressed on a calorie basis. Our knowledge of these two components is growing, but the research base for the components is still incomplete. The nutritional score of a food in the Nutrition Scoreboard represents one way of rating the *nutrient-density* of foods. It is important to realize the concept of	3. Poster: NUTRITION SCOREBOARD Handout: NUTRITION SCOREBOARD, pages 135-136

LEARNING ACTIVITIES

DISCUSSION QUESTIONS: ?

-Is snacking bad for you?

Yes and no. Yes, if you eat more calories than you burn up or eat foods which are loaded with sugar, salt, and fat, but low on vitamins or minerals.

No, if you eat nutritious snacks which supply your body nutrients or energy that you don't get at your regular meals.

-How can you be a good snacker?

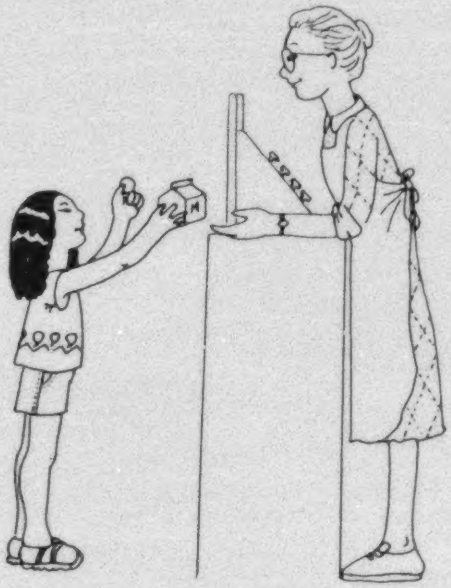
By knowing what foods you like are nutritious snacks, having these snacks handy or knowing where to get these snacks when the munchies usually strike you.

By making sure that your snacks plus your meals give you only the calories necessary to maintain your ideal body weight.

INFORMATION

nutrient-density is new. Because it is new, there is disagreement among nutritionists on the best way to score the nutrient-density of foods.

It is important to understand that the nutritional value of any food can only be evaluated in terms of your total food intake. The 5 food groups, nutrient density ratings, RDA's, and U.S. RDA's and the U.S. Dietary Guidelines, are all tools which can be used to help assess the nutritional adequacy of your diet.



AIDS

LEARNING ACTIVITIES

4. Handout #36 - SUPER SNACKS

Discuss the poster: SNACKS: CHOICE OR CHANCE

Discuss with students what they can do to make nutritious snack choices.

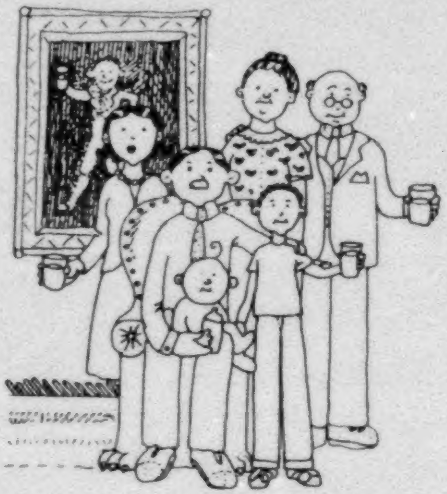
a. Know which snacks are the high-nutrient density foods and what foods are not loaded with sugar, far, and sodium.

b. Plan ahead to know where to get these foods and to have them on hand when the munchies strike.

INFORMATION

You may have heart someone say that snacks are bad for you. The "don't snack" rule is based on the assumption that snacks promote obesity because they represent extra calories beyond those needed for a nutritionally adequate diet, or that many "snack foods" are low-nutrient density foods which supply mainly calories.

Different people around the world have a variety of traditions relating to snacking. For example, the English afternoon teatime is a standard snacktime. In some cultures, one or two meals is the custom; in others, up to six meals a day are customary. It may be that frequent snacking can be a part of a healthful way of life. Snacking seems to be a part of the American way of eating!



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4. Handout #36
SUPER SNACKS

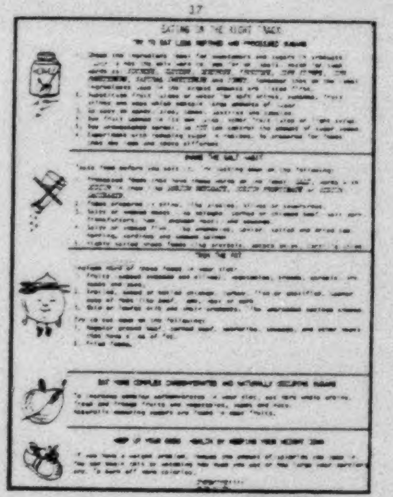
Poster: SNACKS: CHOICE OR CHANCE

NUTRITION Super Stars

LESSON V
CLASS 18
OBJECTIVES 33-41

LEARNING ACTIVITIES

1. Handout #37 - EATING ON THE RIGHT TRACK



DISCUSSION QUESTION:

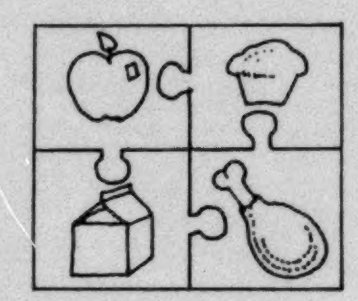
-What is the best way to stay healthy?

Eat a variety of foods at meals and as snacks to give you the right amount

INFORMATION

The first step to improve your diet is to approach it with a positive attitude. Too often people equate nutritious food with that old cliche, "if it tastes bad, it's got to be good for you!" Let your students discover that there are foods in the five food groups guidelines which they ENJOY EATING.

Nobody is perfect, and nobody eats a perfect diet, but there is always room to IMPROVE YOUR DIET. Remember, your diet is nutritionally adequate when you are eating the right balance of energy and nutrients that your body requires for good health. If you usually eat foods like whole-grains, legumes, lean meats, milk, cheese, fresh fruits, and vegetables, you are probably eating a very nutritious diet.



AIDS

1. Handout #37 EATING ON THE RIGHT TRACK

References

NUTRITION AND YOUR HEALTH - DIETARY GUIDELINES

LEARNING ACTIVITIES

of calories to maintain your ideal body weight.

Try to eat foods which give you a *balance* *of protein, carbohydrate, fats, vitamins, minerals, water, and fiber to meet your body's nutritional needs.*

Keep an eye on the amount of simple carbohydrates, fat, and sodium you eat.

Try to exercise everyday and spend time relaxing. Remember, we *nourish* *ourselves by everything we do.*

INFORMATION

Personalize your diet by adjusting your calorie needs to your activity. The more energy you use up, the more calories you will need. Choose your calories wisely. There are no "good calories", but there are foods which give you little but calories. These are called low nutrient-density foods. Nutrition-wise people will choose foods which give them calories PLUS NUTRIENTS. These are called high nutrient-density foods.

Good nutrition does not have to cost an arm and a leg. Inexpensive foods can be found in EACH of the FIVE FOOD GROUPS. If you want to economize on your food bill, circle the least expensive items in each group before planning a menu or making a shopping list. Whatever your income level, selecting foods wisely will be well worth the price.

How many meals should you eat a day? This can vary depending on your lifestyle. Nutritionists recommend spacing your meals throughout the day to help you stay alert and perform at your best.

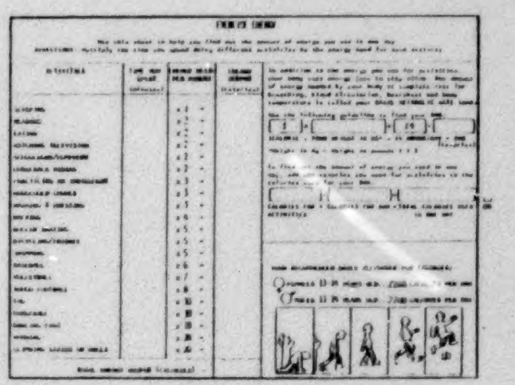
Our eating habits have changed. In the last 10 years there has been a big trend from eating basic unprocessed foods to eating highly processed, convenience foods. Processing generally removes or reduces the nutrient content of foods. Processed foods now make up over half of what we eat. As a result of these and other changes, most Americans eat too much sugar, fat, and sodium. Overconsumption of these items is linked with heart disease, cancer, diabetes, hypertension and obesity. After years of research, the USDA and DHHS have recommended the following dietary guidelines:

1. *Eat a variety of foods.*

    Adding variety to our diets isn't difficult. Most of us vary the way we eat each day. By picking

AIDS

LEARNING ACTIVITIES	INFORMATION	AIDS
	different foods from the food groups, the range of nutrients in our diets is increased. Over a period of days, we should come out about right. Plan menus which increase food variety by: -providing more servings than usual of fruits and vegetables. -frequently including dark green vegetables, dry bean dishes, and starchy vegetables. -using more grain products especially whole grains.	
2. Handout #38 - EXERCISE ENERGY	2. *Maintain ideal weight.* To avoid becoming overweight, consume only as much energy (calories) as you use up. Twenty to thirty percent of our population is obese. Obesity is a *health* problem related to heart disease, stroke, diabetes and hypertension. To lose weight: -cut back on fats, sugars and alcohol in the diet. -cut back on serving sizes. -increase physical activity. 3. *Avoid too much fat, saturated fat and cholesterol.* Fat should provide only about 30% of the calories of the calories in your diet. Higher levels of blood cholesterol are usually associated with a greater risk of heart disease; lower levels with a lower risk. High levels of blood cholesterol may lead to atherosclerosis or hardening of the arteries, an underlying cause of many heart and blood vessel diseases.	2. Handout #38 EXERCISE ENERGY



LEARNING ACTIVITIES	INFORMATION	AIDS

NO, THANKS! I'M LIMITING MY FAT INTAKE
BUTTER?

Lower the amount of fat and cholesterol in the diet by:

-choosing lean meat trimmed of visible fat.

-draining meat drippings.

-reducing the amount of margarine or other fats used on bread and vegetables.

-purchasing low fat and skim milk and decreasing the amount of fat in other foods when whole milk or cheese is used.

-decreasing the amount of fat used in recipes, added to foods in cooking or at the table.

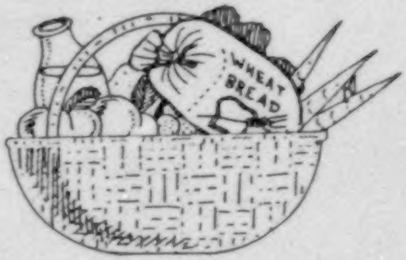
-limiting the number of fried foods, especially those that are breaded or batterfried.

-moderating the amounts of organ meats and egg yolks.

-using fewer creamed foods and rich desserts.

4. *Eat foods with adequate amounts of starch and fiber.*

Consume enough *complex carbohydrates* and "naturally" occurring sugars to make up 58% of your energy (calorie) intake.



Complex carbohydrates are slowly digested and provide a steady energy supply to your body. Foods high in complex carbohydrates often contribute fiber to your diet. Dietary fiber is plant material which is not digested in the gastrointestinal tract of man. There are some indications that eating fibrous foods may prevent constipation and help to prevent some chronic diseases of the large intestine. In addition, fiber is a plus in weight reduction because bulky foods fill you up. The types or amounts of fiber in foods which are the most beneficial to health are not known.

LEARNING ACTIVITIES

INFORMATION

To get enough starch and fiber in your diet:

-eat more fruits and vegetables.

-choose potatoes, sweet potatoes, yams, corn, peas, and dried beans more often.

-select whole grain cereal products such as brown rice, oatmeal, and whole wheat bread.

5. *Avoid too much sugar.*

Only 10% of your calories should come from *refined* and *processed sugars*. There are many types of sugars. These include: sucrose, corn or glucose syrups; and sugars which occur naturally in foods - lactose in milk and fructose in fruit. The most common sweetener is table sugar (*sucrose*).

Commonly eaten sugars and sweeteners offer little nutritionally except calories. They are low nutrient density foods. When sugars and sweeteners make up a substantial share of your calories, they may replace other foods which offer vitamins, minerals, and protein in addition to calories. Because sweets are well liked, and contribute calories without bulk or fiber, it is easy to eat more of them - and more calories - than you realize. More calories than you need make you fat. It doesn't matter where they come from carbohydrate (sugar or starch), fat, or protein.

Limit sugar intake by:

-cutting down on or avoiding very sweet foods.

-decreasing the amount of sugar in recipes for baked goods and desserts.

-serving more fresh fruit and canned fruits packed in juice or light syrup.

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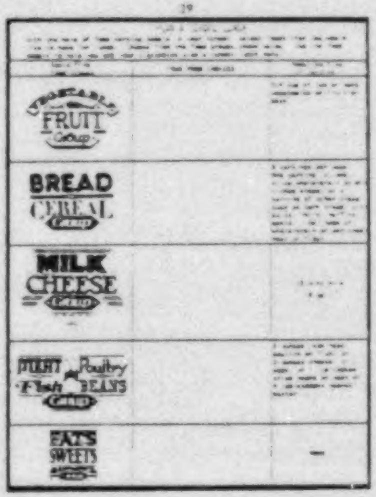
LEARNING ACTIVITIES	INFORMATION	AIDS
	-limiting the amounts of sugar, jams, jellies and syrups. 6. *Avoid too much sodium and salt.* Reduce salt use to about 3 to 5 grams per day. This would give you about 1.2 to 2 grams of sodium. The American diet averages 25 times more sodium than the body needs. A high sodium diet may be related to the development of hypertension (high blood pressure) and strokes in some people. Besides the salt added in cooking and at the table, much of the sodium people consume comes from salt ant other sodium compounds added to commercially prepared foods. To limit the amount of salt and sodium in your diet: -use few processed foods which contain sodium. -taste food before adding salt. -keep the salt shaker off the table. -sparingly use commercially prepared sauces and condiments such as catsup, barbecue sauce, mustard or soy sauce.	

LEARNING ACTIVITIES

3. Handout #39 - PLAN A SCHOOL LUNCH



Have students use the Dairy Council Food Models to help them plan a nutritious lunch that could be served in the school lunch program.

(Students may be divided into groups to choose 2 or 3 food items to be served from each of the FIVE FOOD GROUPS.)

INFORMATION

-use more fresh and frozen vegetables than canned or seasoned frozen vegetables which have salt added.

-limit the use of salty snack foods such as chips, pretzels, and crackers.

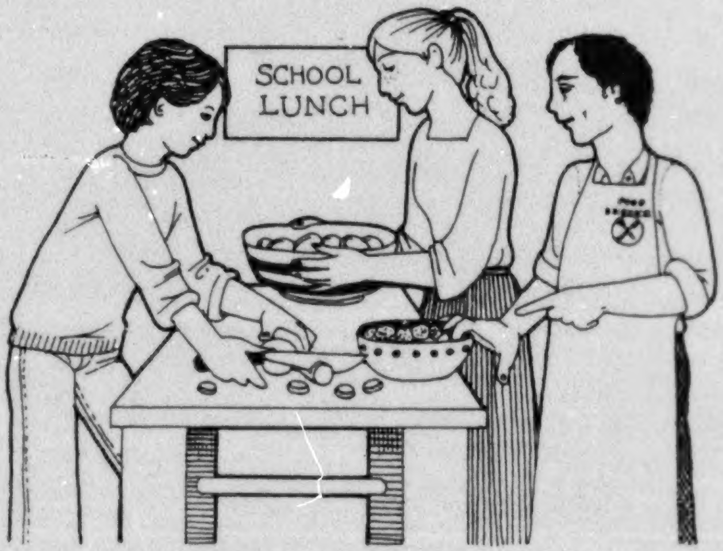
AIDS

3. Handout #39 PLAN A SCHOOL LUNCH

References

Food Models

NUTRITION CONCEPTS AND CONTROVERSIES

LEARNING ACTIVITIES	INFORMATION	AIDS
Some helpful tools they can use in meal planning are: a. The Basic Five Food Groups b. School lunch food pattern c. Recipe books Invite parents to eat school lunch on the day your menu is served in the cafeteria.		

LESSON V

CLASS 19

OBJECTIVES 34-36, 37-43

LEARNING ACTIVITIES

1. Handouts #40 & #41 - BE A NUTRITION SUPER STAR - THE CHOICE IS YOURS

INFORMATION

The Nutrition Super Stars project has provided information to help you learn about nutrition and health, and to aid you in making food and exercise choices. As a consumer, you are constantly facing choices which affect your health. How often should I choose the convenience of fast food restaurants with limited food selections and many high fat foods versus restaurants with a variety of food choices? How frequently should I use energy expensive processed/packaged foods? And what about finding time to exercise? Should I ride my bike to school or take my car?

Habit changes occur gradually. The Nutrition Super Stars guidelines are a sensible approach to gradually changing your health habits. The best health tool available to you as a consumer is to continually stay abreast of information on health and fitness. Only *you* can identify what will work best to help you be healthy.

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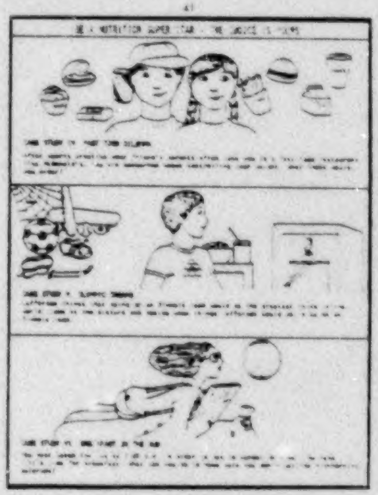
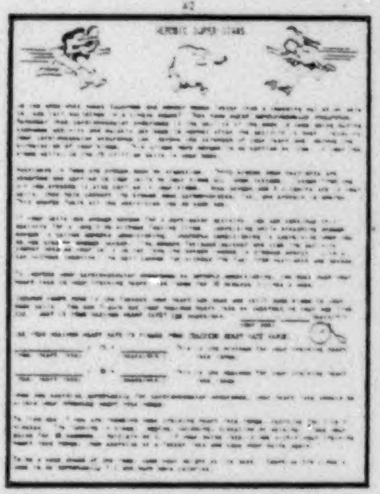
1. Handouts #40 & #41 BE A NUTRITION SUPER STAR - THE CHOICE IS YOURS

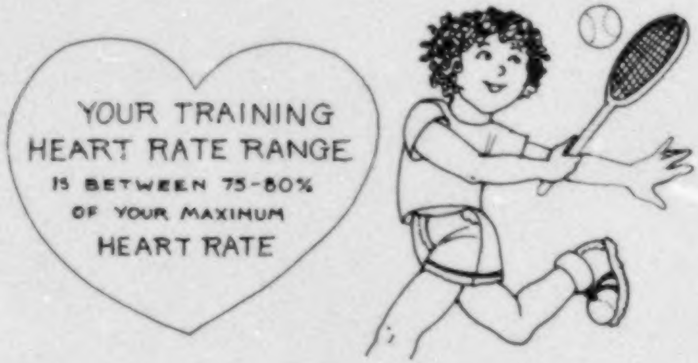
LEARNING ACTIVITIES	INFORMATION	AIDS
	The CASE STUDIES listed in Handout #40 and #41 - BE A NUTRITION SUPER STAR - THE CHOICE IS YOURS is a way your students can incorporate the Super Stars guidelines in making healthy food and nutrition exercise choices. 	
2. Handout #42 - AEROBIC SUPER STARS 	To help you make wise exercise choices, it is important to discuss in more detail cardiovascular fitness through *aerobic conditioning*. If you recall in class 15, it was through endurance type exercises — brisk walking, running, bicycling, swimming, jumping rope, and dancing -- that you can improve the fitness of your cardiovascular system. This type of fitness improves your *cardiovascular endurance*. Cardiovascular endurance is obtained through *aerobic conditioning*. Cardiovascular endurance means that your body is able to keep going during strenuous activity and quickly return to normal after the activity is over. This is because your heart has become stronger and the circulation of your blood has improved. With improved circulation, more oxygen and nutrients can be carried	2. Handout #42 AEROBIC SUPER STARS

LEARNING ACTIVITIES	INFORMATION	AIDS

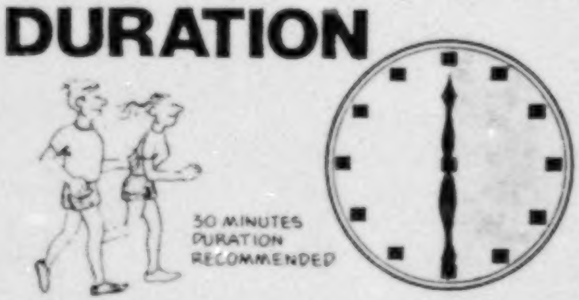
to your cells for energy production. This energy can then be used to fuel body activities.

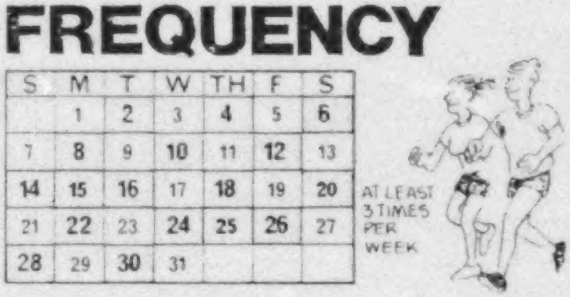
Some activities require a sudden burst of energy. This includes activities like running or swimming sprints, shot put, pole vaulting and any other form of exercise which requires you to dash and dart around or stop and go.

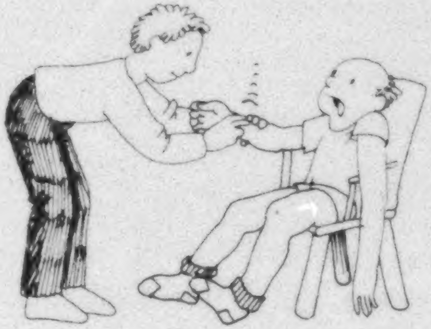
You must be able to rapidly replace your energy supply in order to continue the exercise longer. Unfortunately with these types of activities, your cells can not obtain enough oxygen and as a result, sufficient energy is not produced. You become fatigued quicker and must stop the activity sooner. Exercising without enough cellular oxygen is *anaerobic conditioning*.



To improve your cardiovascular endurance through *aerobic* conditioning, you must exercise for at least 30 minutes 3 times a week at a high energy level. This level is determined by your *maximum heart rate*. Maximum heart rate is the fastest your heart can beat and still pump blood to your body cells. Your pulse rate reflects your heart rate.



LEARNING ACTIVITIES	INFORMATION	AIDS
 FREQUENCY S M T W TH F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 AT LEAST 3 TIMES PER WEEK	Although it varies from person to person, your maximum heart rate is roughly 220 beats per minute minus your age. maximum heart rate = 220 beats per minute - age If you are 12 years old, it is about 208; if you are 30 years old, it is about 190. Using your maximum heart rate, you can figure your *training heart rate range*. Your training heart rate is between 75 to 85 percent of your maximum heart rate. Your pulse should be pushed to within this range to improve your cardiovascular endurance. Minimum training heart rate = maximum heart rate x .75 Maximum training heart rate = maximum heart rate x .80 Here is an example of how to find the training heart rate for a 12 year old. Maximum heart rate = 220 beats per minute minus 12 (yrs. old). Minimum heart rate = 75% of 208 beats per minute. 208 x .75 = 146 beats per minute. Maximum heart rate = 80% of 208 beats per minute. 208 x .80 = 177 beats per minute. When you exercise, try testing yourself. Exercise for 3 to 5 minutes. Take your pulse for 30 seconds and multiply by 2. If you do not reach your training heart rate range, you are not working hard enough, and you must exercise at a faster rate to achieve aerobic conditioning.	

LEARNING ACTIVITIES	INFORMATION	AIDS
	But remember, start off any type of exercise program slowly. Then work up to this level. AS A GUIDE, IF YOU CANNOT CARRY ON A NORMAL CONVERSATION WHILE PARTICIPATING IN AN ENDURANCE ACTIVITY, YOU MOST LIKELY ARE WORKING HARDER THAN YOU SHOULD - SLOW DOWN! Exercising should be fun because the benefits you will derive occur when exercise is done on a regular and consistent basis. Everyone is different so find activities which you enjoy and fit into your lifestyle. Let's slow down!	

NUTRITION Super Stars

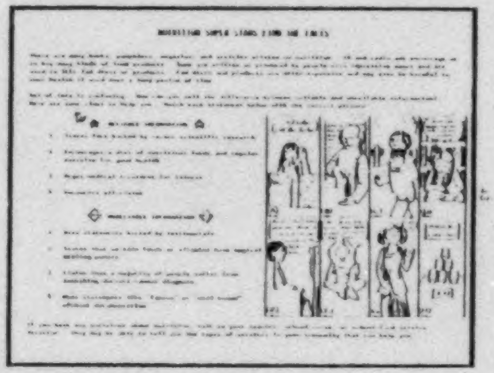
LESSON V

CLASS 20

OBJECTIVES 42-43

LEARNING ACTIVITIES

1. Handout #43 - NUTRITION SUPER STARS FIND THE FACTS



INFORMATION

Knowing the facts about nutrition and fitness is very important. Finding the facts is often a difficult job. Some people are more interested in *selling* you a special diet plan, alleged "miracle" foods, or special gadgets than in helping you *help yourself* to balanced nourishment from food, exercise, and relaxation. Therefore, you as a consumer must use your own judgment or the help of dependable experts when determining the reliability of nutrition and other health information or sources of this information.

Once you know the facts about nutrition and health or where to go for help in finding the facts, you are on the road to becoming a Nutrition Super Star.

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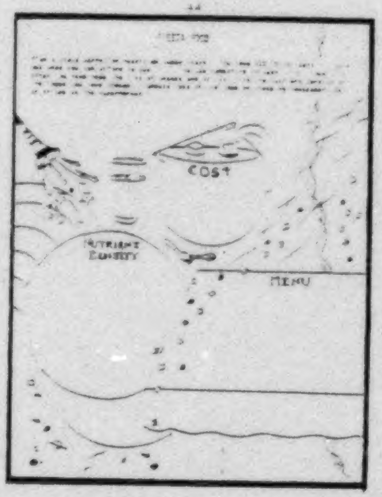
1. Handout #43 NUTRITION SUPER STARS FIND THE FACTS

LEARNING ACTIVITIES

2. Handout #44 - FIESTA FOODS



Check with your school food services department to see if they can help your studnets with their fiesta plans.

INFORMATION

Knowing the *facts* is only part of the game plan. The next step is to *use* this information everyday when you make food and recreation choices. Choices form our habits. Habits shape the way we live and influence our health.

Gee, we've never tried asparagus before..
SALE!!
ASPARAGUS

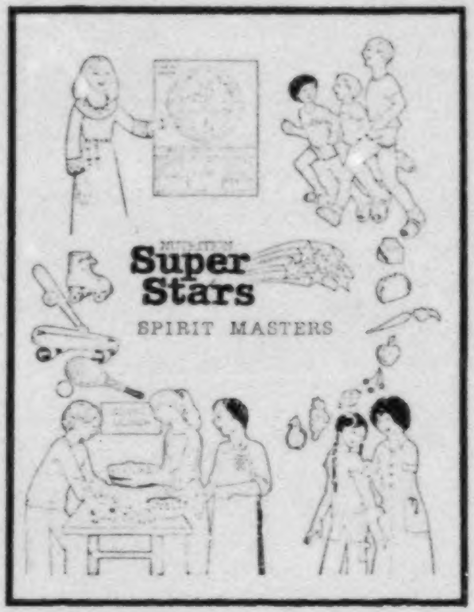
The process of nutrition education must help us learn to evaluate and develop healthful living habits. It must also help us see that others may need help to meet their nutritional needs. The process of nutritional education must prepare students to understand that the economic resources of the individual, the family, the nation, and the world determine the opportunity for individuals to nourish themselves healthfully.

Nutrition education is an integral part of many disciplines. It forms part of the subject matter of science, health, social studies, physical education, math, and language arts. It includes not only classroom learning, but what students learn at home, in the school cafeteria, and on television.

AIDS

2. Handout #44 FIESTA FOOD

LEARNING ACTIVITIES

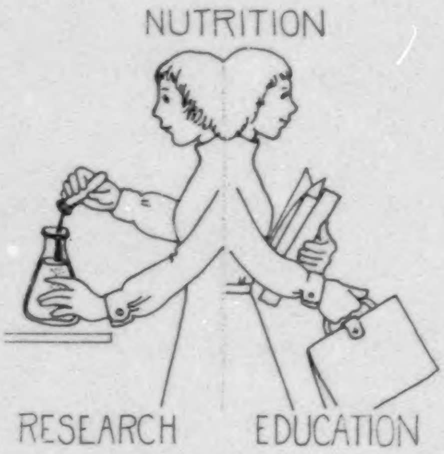


INFORMATION

Nutrition education merely begins with teaching students the facts about food, nutrients, physical fitness and their relationship to good health.

The challenge for nutrition education is to enable students and teachers alike to *live* what they have learned. The choice is yours -- to make good health happen or to let health happen to you!

Nutrition is a complex new scientific field with continual ongoing research. It is a social action field with issues to be investigated and resolved. Nutrition education is a new frontier which will grow more important and significant with every passing day.



AIDS

TEST

SECTION I Directions: Answer each question by blackening the appropriate bracket. Blacken 'A' if you strongly agree blacken 'B' if you agree blacken 'C' if you disagree blacken 'D' if you strongly disagree There is no right or wrong answer to this section. Fill in the bracket completely. DO NOT WRITE ON YOUR TEST BOOKLET.

1. I like trying new foods.

____A) I strongly agree
____B) I agree
____C) I disagree
____D) I strongly disagree

2. I like foods cooked at home better than foods from fast-food restaurants like Jack-In-The-Box, McDonalds, or Taco Bell.

____A) I strongly agree
____B) I agree
____C) I disagree
____D) I strongly disagree

3. I eat more when I am unhappy than when I am happy.

____A) I strongly agree
____B) I agree
____C) I disagree
____D) I strongly disagree

4. I like some foods now that I didn't like when I first tried them.

____A) I strongly agree
____B) I agree
____C) I disagree
____D) I strongly disagree

5. I am healthy most of the time.

____A) I strongly agree
____B) I agree
____C) I disagree
____D) I strongly disagree

6. Being active helps me be healthy.

____A) I strongly agree
____B) I agree
____C) I disagree
____D) I strongly disagree

7. What I eat affects how healthy I am.

____A) I strongly agree
____B) I agree
____C) I disagree
____D) I strongly disagree

Test Number ________

8. I try to choose foods that will help keep my body healthy.

_____A) I strongly agree
_____B) I agree
_____C) I disagree
_____D) I strongly disagree

9. I like the way I am growing.

_____A) I strongly agree
_____B) I agree
_____C) I disagree
_____D) I strongly disagree

10. I normally need to take a vitamin pill in order to be healthy.

_____A) I strongly agree
_____B) I agree
_____C) I disagree
_____D) I strongly disagree

11. I don't like to try new foods.

_____A) I strongly agree
_____B) I agree
_____C) I disagree
_____D) I strongly disagree

12. What I eat really does not affect my health.

_____A) I strongly agree
_____B) I agree
_____C) I disagree
_____D) I strongly disagree

13. I eat food I like regardless of whether it will help keep my body healthy or not.

_____A) I strongly agree
_____B) I agree
_____C) I disagree
_____D) I strongly disagree

14. I eat more when I am bored than when I am busy.

_____A) I strongly agree
_____B) I agree
_____C) I disagree
_____D) I strongly disagree

15. If I don't like a food when I first taste it, I'll never like it.

_____A) I strongly agree
_____B) I agree
_____C) I disagree
_____D) I strongly disagree

16. I am not healthy most of the time.

_____A) I strongly agree
_____B) I agree
_____C) I disagree
_____D) I strongly disagree

17. Being active does not help me be healthy.

_____A) I strongly agree
_____B) I agree
_____C) I disagree
_____D) I strongly disagree

18. I like foods from fast-food restaurants better than foods cooked at home.

_____A) I strongly agree
_____B) I agree
_____C) I disagree
_____D) I strongly disagree

19. Normally I do not need a vitamin pill to be healthy.

_____A) I strongly agree
_____B) I agree
_____C) I disagree
_____D) I strongly disagree

20. Nearly anyone can stay at a healthy weight level.

_____A) I strongly agree
_____B) I agree
_____C) I disagree
_____D) I strongly disagree

21. Overweight people will probably always be overweight, no matter what they do.

_____A) I strongly agree
_____B) I agree
_____C) I disagree
_____D) I strongly disagree

22. Between meal snacks can be a good way to help get a nutritious diet.

_____A) I strongly agree
_____B) I agree
_____C) I disagree
_____D) I strongly disagree

23. Taking lots of vitamins can make up for eating low-nutrient density food.

_____A) I strongly agree
_____B) I agree
_____C) I disagree
_____D) I strongly disagree

24. I know alot about nutrition.

_____A) I strongly agree
_____B) I agree
_____C) I disagree
_____D) I strongly disagree

CONTINUE TO NEXT SECTION

READ DIRECTIONS CAREFULLY

SECTION II Directions: Fill in the bracket of letter for the one best answer for each question. Fill in the bracket completely. There is only one best answer. If you don't know an answer LEAVE IT BLANK.

25. Three of the six major nutrients in food are

______A) photosynthesis, salt, water
______B) cellulose, water, vitamins
______C) carbohydrates, fat, minerals
______D) vitamins, protein, chlorophyll

26. Your body cells are made of

______A) cellulose
______B) chlorophyll
______C) nutrients
______D) photosynthesis

27. The amount of nutrients present in the body

______A) is always the same
______B) can change with the color of your eyes
______C) can change with your activity level
______D) changes only when you are an infant

28. Measuring your height, weight, and skin fold thicknesses can roughly tell you

______A) how strong your body is
______B) the amount of fat in your body
______C) how flexible your body is
______D) the amount of energy in your body

29. Which is not and example of a simple carbohydrate

______A) honey
______B) molasses
______C) sugar
______D) flour

30. Milk is an important food because

______A) it has a lot of iron
______B) it has vitamin C
______C) it has all the nutrients I need
______D) calcium in it helps build strong bones and teeth

31. Mexican or Pinto beans contain

______A) fats, vitamin C, vitamin K
______B) carbohydrates, protein, vitamin B
______C) vitamin C, vitamin K, vitamin D
______D) vitamin C, protein, vitamin K

32. The body has the least amount of which nutrient?

______A) minerals
______B) vitamins
______C) protein
______D) fats

33. You need B vitamins in your diet because

______A) they help you get energy from food
______B) they help you to see well at night
______C) they help make strong bones
______D) they help heal cuts

34. Calories are a measurement of

______A) the temperature of the air
______B) the body's weight
______C) the body's length
______D) enegy given off by foods

35. I get all the nutrients my body normally needs to be healthy if I

______A) drink milk
______B) eat breakfast
______C) take vitamins
______D) eat a variety of foods

36. José is writing a report on nutrients that do not give energy to the body. Which group of nutrients did he write about?

______A) protein, fat, minerals
______B) carbohydrate, fat, water
______C) vitamins, carbohydrate, protein
______D) vitamin, minerals, water

37. A food can contain

______A) no more than one nutrient
______B) no nutrients
______C) every nutrient that your body needs
______D) several nutrients

38. A gram of fat has

______A) the same number of calories as a gram of protein
______B) less calories than a gram of protein
______C) less calories than a gram of carbohydrate
______D) more than twice as many calories as a gram of carbohydrate

39. The position of a food on the food chain is determined by the

______A) the number of calories in a standard amount of the food
______B) amount of energy it takes to produce the food
______C) the area of the country where the food is produced
______D) its vitamin content per gram

40. In order for your cells to use nutrients

______A) they must be absorbed into your blood or lymph
______B) they must be inhaled through your lungs
______C) you must eat oranges
______D) you must take vitamin pills three times a day

41. Digestion is a process that

______A) carries nutrients in the blood
______B) carries nutrients to cells in the body
______C) removes wastes from the body
______D) breaks down food to smaller parts

42. Metabolism is the process by which

______A) your body uses food
______B) your body is hydrolized
______C) your body breathes
______D) your body is homogenized

43. What you eat is influenced by

______A) habit and how you feel
______B) your family
______C) advertisements
______D) all of the above

44. A special diet is nutritionally reliable when

______A) it promises "a miracle"
______B) there is scientific proof that it works
______C) you see ads for it
______D) it promises to make you look like a TV star

45. Diane and Rudy want to be more healthy. They decided to try to improve their snack choices and activity patterns. What could they do to reach their goal?

______A) Nothing. They can wait a month and see what happens.
______B) They can make a food and exercise plan and follow it.
______C) They can make a food and exercise plan.
______D) They cannot change the way they eat and exercise.

46. Sit ups, pull ups, and a 9 minute run help measure

______A) your body's growth
______B) your body's weight
______C) your physical fitness
______D) your ability to breathe

47. When you are physically fit you usually have

______A) more energy
______B) curly hair
______C) sharp teeth
______D) less strength

48. Which of the following are common examples of malnutrition in America?

______A) crushed bones and dirty fingernails
______B) oily hair and bow legs
______C) obesity and cavities
______D) cross eyes and soft fingernails

49. How healthy you are is affected by

______A) your activity level and your eye color
______B) your sex and your activity level
______C) what you eat and your activity level
______D) your activity level and your hair color

50. After school Terry and Rosa ride home on the bus, watch TV, eat dinner, watch more TV and go to bed. They complain that they always feel tired. They might feel this way because

______A) they are lazy
______B) they are not getting enough exercise
______C) they are growing
______D) they do not eat a bedtime snack

51. A low nutrient-density food is one that

______A) contains very few nutrients in comparison to its energy content
______B) contains lots of nutrients in comparison to its energy content
______C) is very light weight in comparison to its size
______D) is very heavy in comparison to its size

52. Which food is a high nutrient-density food?

______A) lemonade
______B) milk
______C) orange drink
______D) cola (soda

53. Which food is a low nutrient-density food?

_____A) corn bread
_____B) whole wheat bread
_____C) frosted cupcake
_____D) tortilla

54. Which activity uses the least energy?

_____A) playing frisbee
_____B) running
_____C) roller skating
_____D) watching TV

GO ON TO NEXT SECTION

READ DIRECTIONS CAREFULLY

SECTION III Directions: Fill in the bracket of the letter for the answer that best describes what you do or would do in each question. There is no right or wrong answer. Fill in the bracket completely.

55. I choose the snacks I eat because

______A) my friends eat them
______B) I know they supply nutrients I need for my body
______C) that is what my family has in the house
______D) I see them advertised on TV
______E) that is what is available at school

56. What I eat before school is prepared by

______A) me
______B) family member
______C) school breakfast program
______D) cafe, restaurant, or convenience market like Circle K, or 7-11
______E) no one - I don't eat breakfast

57. I would choose more nutritious snacks if

______A) they were in the house
______B) I had more money to buy them
______C) my friends didn't put pressure on me to eat certain snacks
______D) I knew what snacks were the most nutritious
______E) they were available at school

58. Where does your family get most of your food?

______A) large supermarket
______B) small store
______C) farmers market or fruit and vegetable stand
______D) home garden

59. Where does your family eat out most?

______A) delicatessen
______B) fast-food restaurants
______C) other restaurants

60. How often does your whole family eat together?

______A) never
______B) rarely
______C) once a day
______D) twice a day
______E) three times a day

61. I eat something before school

______A) once or twice a week
______B) three times a week
______C) four times a week
______D) everyday
______E) never

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62. The time of day I snack most is

______A) before school
______B) right after school
______C) before bed
______D) during lunch break
______E) I don't snack

63. I get most of my information about nutrition from:

______A) parents
______B) teacher
______C) school nurse
______D) school foodservice people
______E) friends

64. I also get information about nutrition from

______A) TV
______B) newspapers
______C) radio
______D) magazines
______E) books

65. How much money do you spend on snacks each day?

______A) less than $1.00
______B) more than $1.00
______C) none

66. At lunch time I usually

______A) eat at home
______B) eat school lunch
______C) eat a sack lunch
______D) other
______E) don't eat

67. I take a vitamin-mineral pill

______A) daily
______B) occasionally
______C) never

68. When I am with my friends, if I had a snack choice I would choose

______A) peanut butter and crackers
______B) carrots
______C) apple
______D) potato chips
______E) chocolate chip cookies

69. When I am with my friends, if I had a snack choice I would choose

______A) soda pop
______B) juice
______C) milk
______D) fruit drink or koolaid

70. If I had my choice I prefer to

______A) play a game like softball, soccer, or similar activity
______B) ride a bike, swim, or similar activity
______C) watch TV alone, with my family or friends
______D) read or play a game like chess, cards, or similar game

STOP. THIS IS THE END OF THE TEST.

GIVE YOUR TEST TO THE TEACHER.

TAKE YOUR TICKET AND GO TO THE SNACK BAR.

NUTRITION
Super
Stars

SELECTED REFERENCES
for
NUTRITION SUPER STARS CURRICULUM CLASS PLANS

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NUTRITION Super Stars

INSTRUCTIONAL AIDS DIRECTORY

ITEMS	ADDRESSES
TEXTBOOK	
Nutrition: Concepts and Controversies Eva May Hamilton and Eleanor Whitney Price: $14.95	West Publishing Company P.O. Box 3526 St. Paul, MN 55165
LESSON I	
FILMSTRIP/CASSETTE	
"Waldo Learns About Nutrition - Carbohydrate, Fat, Protein" and "Waldo Learns About Nutrition - Vitamins and Minerals" Price: $24.00 each	McGraw Hill Films 1221 Avenue of Americans New York, NY 10020 or *Arizona Department of Education Food and Nutrition Division Regional Resource Centers
BOOKLETS	
Food is More Than Just Something to Eat U.S. Department of Agriculture, Home and Garden Bulletin #216. Price: $1.00	Superintendent of Documents U.S. Government Printing Office Washington, D.C. 20402
Food, U.S. Department of Agriculture Home and Garden Bulletin #228. Price: $3.25	Superintendent of Documents U.S. Government Printing Office Washington, D.C. 20402 or *Arizona Department of Education Food and Nutrition Division Regional Resource Centers
LEAFLET	
Hassle Free Guide to a Better Diet, USDA Leaflet #567. Price: $.07	Publications, Requests, and Distribution SEA Information Staff Room 6007 South Building USDA Washington, D.C. 20250
MISCELLANEOUS	
Iodine, toothpicks, testape	Local drug store
Glass slides, cover slips Price: Glass slide -- $.06 Cover slip -- $.05	Merchandise Research Co., Inc. 4500 Speedway Blvd. Tucson, AZ

POSTER

Your Diet Your Health
Price: Free

Publications, Requests and Distribution
SEA Information Staff
Room 6007, South Building
USDA
Washington, D.C. 20250

LESSON II

FILMSTRIP/CASSETTE

"You Are What You Eat"
Price: $24.00

McGraw Hill Films
1221 Avenue of Americas
New York, NY 10020
or
*Arizona Department of Education
Food and Nutrition Division
Regional Resource Centers

ADIPOMETER

Skinfold calipers and arm circumference tape.
Price: Box of 5 calipers -- $15.00 or
one kit with directions, tape
and calipers -- $4.00

Ross Laboratories
585 Cleveland Avenue
Columbus, Ohio 43216

LESSON III

FILMSTRIP/CASSETTE

"Why We Eat"
Price: $24.00

McGraw Hill Films
1221 Avenue of Americas
New York, NY 10020
or
*Arizona Department of Education
Food and Nutrition Division
Regional Resource Centers

BOOKLET

Nutritive Value of Foods
U.S. Department of Agriculture,
Home and Garden Bulletin #72.
Price: $1.80

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

LESSON IV

BOOKLET

Food and Fitness
Blue Cross/Blue Shield
Price: Free

Blue Cross Association
Editorial Office
840 N. Lake Shore Drive
Chicago, Illinois 60611

HANDOUT	
Fuels for Muscle Power	Nutrition Super Stars Curriculum
POSTER	
Walk-Jog-Run-Athon	Nutrition Super Stars Curriculum

LESSON V

POSTER	
Arizona Foods Nutrient Analysis Cooperative Extension Service, University of Arizona	Nutrition Super Stars Curriculum
FOOD MODELS Price: $4.50/set (Free in Arizona)	Dairy Council of Arizona 4625 E. Ft. Lowell Road Tucson, AZ 85712 or Dairy Council of Arizona 2008 S. Hardy Drive Tempe, AZ 85282 or National Dairy Council 6300 N. River Road Rosemont, Illinois 60018
MISCELLANEOUS	
Red Disclosing Tablets Price: $1.59 for 30 tablets	Local drug store
POSTERS	
Guide to Good Eating Price: $.75 (Free in Arizona)	Dairy Council of Arizona or National Dairy Council (See above)
What Makes a Snack Good for You Price: $.75 (Free in Arizona)	Dairy Council of Arizona or National Dairy Council (See above)
Snacks: Choice or Chance Replaceable only for junior high school Price: Large -- $.07/Small -- $.04) (Free in Arizona)	Dairy Council of Arizona or National Dairy Council (See above)
Nutrition Scoreboard Price: $1.75	Center for Science in the Public Interest 1755 S. Street, N.W. Washington, D.C. 20009
POSTER	
Nutrition Scoreboard Handout	Nutrition Super Stars Curriculum

MISCELLANEOUS

SLIDE RULE

Fitness Finders Calorie Counter
Supplemental item for Lesson IV
Price: $.40

Fitness Finders
178 E. Harmony Drive
Spring Arbor, MI 49283

BOOKLET

Calories and Weights, The USDA Pocket Guide, U.S. Department of Agriculture
Information Bulletin #364.
Price: $1.00

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

POSTER

Have a Happy Healthy Smile
Price: $.20 (Free in Arizona)

Dairy Council of Arizona
4625 E. Ft. Lowell Road
Tucson, AZ 85712
or
Dairy Council of Arizona
2008 S. Hardy Drive
Tempe, AZ 85282
or
National Dairy Council
6300 N. River Road
Rosemont, Illinois 60018

PAMPHLETS

Food and Nutrition Terms
Price: $.03

Kraft
Consumer Relations Department
P.O. Box 730
Chicago, Illinois 60677

Nutrition and Your Health - Dietary Guidelines, USDA-HEW Publication,
Home and Garden Bulletin #232.
Price: 1 copy free

Consumer Information Center
Pueblo, CO 81009

FILMS

"Look Before You Eat"
Good film to introduce the Nutrition
Super Stars Curriculum
Price: $355.00

Churchill Films
662 N. Robertson Blvd.
Los Angeles, CA 90069
or
*Arizona Department of Education
Food and Nutrition Division
Regional Resource Centers

FILMS CONTINUED

"The Real Talking-Singing Action Movie About Nutrition". Recommended as a final activity for the curriculum. Price: $235.00

Aims Media Inc.
626 Justin Avenue
Glendale, CA 91201

FILMSTRIP/CASSETTE

"Shaping Up", Parts 1 and 2. Recommended as good summary for Lesson IV - Making a Super Star. Price: $69.75

Polished Apple
3742 Seahorn Drive
Malibu, CA 90265

*ARIZONA DEPARTMENT OF EDUCATION
Food and Nutrition Division
Regional Resource Centers

The Nutrition Education Resource Centers are a collection of nutrition education materials housed in six libraries in the State of Arizona. The establishment of these centers is one component of the Arizona NET Program. These materials are treated as regular library items and thus are available for *free* loan. To borrow a specific item, contact your school or local public librarian or go directly to the resource center. Printed materials are available through both walk-in and interlibrary loan (ILL). Audiovisual materials, except films, are available through walk-in loan at all centers and through ILL at specified centers. Films are available through the Maricopa County Free Library.

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Tucson Public Library
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Tucson, AZ 85701
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Yuma, AZ 85634
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Flagstaff, AZ 86001
(602) 774-0603

**Will interlibrary loan audio-visual materials.

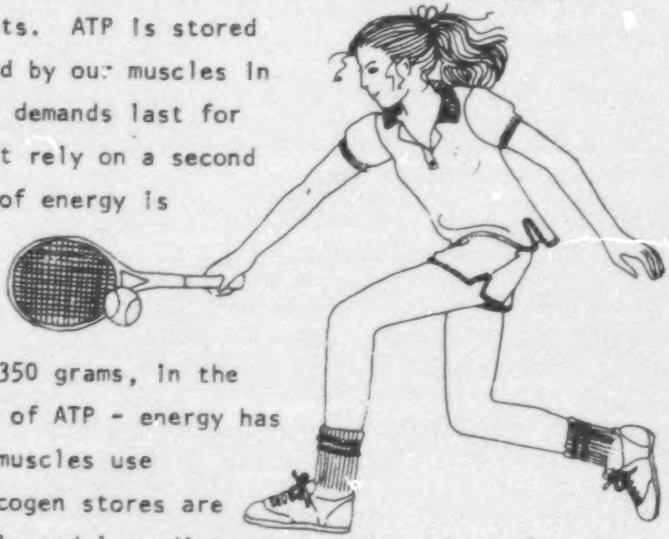
Nutrition Education & Training Program
Food and Nutrition Division
Arizona Department of Education
1535 W. Jefferson Street
Phoenix, AZ 85007

Fuels For Muscle Power

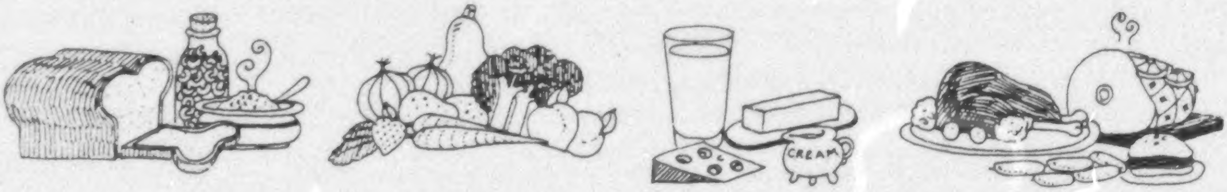
What fuels the muscles? The body needs energy for every activity whether it is digesting food or climbing trees. FOOD ENERGY supplies our bodies with power, just as a gallon of gas powers our car. Our bodies use three different types of fuel when we exercise. These are: ATP - energy, glycogen (the storage form of carbohydrate), and fat. The type of fuel the muscles will use for exercise depends on:

1. HOW SOON the energy is needed by the body.
2. HOW HARD the muscles must work.
3. HOW LONG the activity lasts.

When a sprinter tears down the tract during a 60-yard dash, he needs his energy IMMEDIATELY for a short period of time because he is working his muscles at their MAXIMUM. The sprinter is relying on ATP (adenosine triphosphate) for his energy. You have already learned that the end products of digestion - fatty acids, amino acids, and sugar - can be burned for energy. The liberated energy, in turn, is stored in the magical ATP molecule. ATP, a chemical compound, is stored in the muscles for instant power. ATP is also the ultimate fuel which ALL muscle cells need in order to do their work. OUR bodies use ATP to supply energy for SUDDEN BURSTS of activity in intensive, short-term exercise, such as shot-putting, pole vaulting, or track and swimming sprints. ATP is stored only in very small amounts and is used by our muscles in a matter of minutes. When the energy demands last for more than brief spurts the muscle must rely on a second source of energy. The second source of energy is GLYCOGEN, the storage form of carbohydrate. The body makes glycogen from glucose (a simple sugar) and stores it in LIMITED amounts, about 350 grams, in the liver and muscles. When our supplies of ATP - energy has been exhausted through exercise, our muscles use GLYCOGEN to restore ATP. Maximum glycogen stores are most important for athletes like middle and long distance runners, since glycogen is



a major source of energy for heavy exertion lasting more than a few minutes. Glycogen stores also seem to be the KEY to ATHLETIC PERFORMANCE and determines how long our muscles are able to perform. What happens when a muscle runs out of glycogen? That muscle will become uncoordinated and begin to hurt. It is called "HITTING THE WALL", a very common phenomenon during endurance competition. With will-power you can keep on going after "hitting the wall", and your muscles will burn FAT, blood sugar, and finally, their own tissue. When this happens every movement becomes extremely painful. A large portion of our glycogen stores will be used up within the first twenty minutes. Then our bodies will start to use FAT as well as glycogen for muscle fuel. Even the thinnest athlete cannot run out of fat to burn for muscle fuel.



EAT TO BUILD UP MUSCLE FUEL -- A good diet - one based on meat, milk, fish, poultry and eggs, whole-grain cereals, legumes and nuts, leafy green vegetables, and other fruits and vegetables - will meet all the nutritional requirements of athletes and persons engaged in hard physical labor. Vitamin pills and special supplements are not needed in super-normal doses and have not been proven to increase athletic performance. Your diet should include well-balanced proportions of CARBOHYDRATES, FATS, and PROTEIN to fuel your muscles. REMEMBER - - -carbohydrate is stored in the liver and muscles in the form of glycogen. GLYCOGEN STORES seem to be the KEY fuel for endurance. FATS are also an important part of the winning food line-up. It is a secondary source of energy especially during the latter stage of endurance sports. Fat is stored in the muscles under the skin and around the inner organs. Although PROTEIN is never a source of immediate energy and a poor source of energy during exercise, don't pass it up! PROTEIN is needed to build muscle tissue. Protein supplements or large quantities of protein are NOT needed to build muscle and strength in an athlete. An athlete will be supplied with plenty of protein when he increases his overall food intake to supply extra calories for exercise.

Mirkin, G., and M. Hoffman. The Sportsmedicine Book. Boston: Little, Brown and Co., 1978.

Smith, [illegible] J. Food for Sport. Palo Alto: Bull Publishing Co., 1976.

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NUTRITION
Super
Stars

Vol. II, No. 1

NUTRITION AND FITNESS

Lately, everybody's catching fitness fever and there's never been a healthier trend! America is being overrun by nearly eight million joggers. Many people - from inner-city youths to factory workers and suburban homemakers - are also taking a closer look at what they are eating.

A recent Harris poll revealed that a vast majority of people think that more nutritious food plus regular exercise would do more to improve America's health than anything doctors or medicine could do for us.

THE NEWS IS OUT: Fitness and good nutrition has helped millions create a new fountain of youth! It is a way of revitalizing yourself from a life of fast foods, six o'clock cocktails and evenings in the easy chair. Most important, staying active and eating well makes you LOOK AND FEEL GREAT.

Being physically active and nutritionally wise will affect your looks, your health, and your outlook on life. Research shows vigorous exercise and proper nutrition helps prevent heart attacks, aids in weight control, and instills a feeling of well-being. (1) Signs of food and fitness consciousness are everywhere and Madison Avenue has picked up on the trend. Organic and health food stores are spreading like wild fire. Advertisers have stuck "natural" on everything from potato chips to shampoo. Publishers are pitching food and fitness books faster than Superman. This whirlwind of advertising for pills, potions, and muscle pumpers has put us in a spin about what is actually good for our health. What are the real facts?

NUTRICIÓN Y BUENA SALUD

Ultimamente todos nosotros estamos muy consientes acerca de nuestra salud. En América hay 8 millones de personas que corren todos los días. Muchos de ellos son jóvenes que viven en las ciudades, trabajadores de fábricas y amas de casa quienes se están cuidando mucho de lo que comen.

Es estudio Harris reveló que la mayoría de las personas piensan que una dieta más nutritiva y un ejercicio constante hará más por la salud que cualquier doctor o medicamento harían por ellos.

¡EXTRA, EXTRA! La buena salud y nutrición han ayuadado a millones de personas a desarrolar una nueva fuente de juventud. Es una manera de cambiarse así mismo de una vida de comidas rápidas, cockteles a las seis de la tarde sentado en un sillón. Aún más importante es el permanecer activo y comer bien lo cual lo hace a uno verse y sentirse mejor.

El mantenerse físicamente áctivo y nutritívamente inteligente afecta nuestra apariencia, salud y el modo de confrontarse a la vida. Investigaciones han demostrado que el ejercicio vigoroso y una nutrición adecuada previenen ataques del corazón, ayudan a controlar el peso e infunden una satisfacción de bienestar. Tiendas de comidas orgánicas y saludables se están extendiendo a grandes pasos. Los publicistas han puesto la palabra "natural" a todo, desde las papitas hasta el shampú. Editores están publicando libros de comidas y buena salud más rapido que Superman. Este torbellino de anuncios de píldoras, remedios y fortalecedores de músculos nos han puesto en duda acerca de la veracidad de los productos y acerca de nuestra salud. ¿Cúal es la realidad?

IT'S A FACT: A major health problem in this country is obesity. More than 10 percent of school-aged children in the U.S. are obese. Among adults, a third of the men and one-half of the women are obese.(2) A lack of exercise has been cited as the most important cause of the "creeping" obesity found in today's modern society.(1) Few occupations now require vigorous physical activity Even though we now have more time available for recreation, we fail to fill the gap with exercise.

ES UN HECHO: Uno de los problemas mayores en este país es la obesidad. Mas del 10% de los niños de edad escolar en los Estados Unidos sufren de obesidad. Entre personas adultas, una tercera parte de los hombres y la mitad de las mujeres están obesas. (2) La falta de ejercicio ha sido citada como la causa más importante de la obesidad encontrada en la actual sociedad moderna. Pocos empleos requieren ahora una fuerte actividad física. Aúnque ahora disfrutamos de más tiempo para la diversión, no nos damos el tiempo suficiente para hacer ejercicio.

IT'S A FACT: A daily exercise session does not bring about a corresponding increase in appetite and food intake. (3) Appetite is a fairly good guide to the amount of food needed by active people, but it is not a reliable measure for inactive people. So, if you exercise more, you will not necessarily eat more. In fact, you may eat less.

ES UN HECHO: Una sección de ejercicio diario no nos proporciona un aumento respectivo en apetito y comida. (3) El apetito es una buena guía para la cantidad de comida necesitada por la gente activa, pero no es buena para una persona inactiva. Así es que si usted hace mucho ejercicio no significa necesariamente que debe de comer más. Al contario, en realidad, debe de comer menos.

IT'S A FACT: Protein and amino acid supplements are NOT needed for muscle building. The quality of protein provided by such foods as meat, fish, poultry, beans, milk, cheese, and eggs is the best source of tissue building material. Protein supplements are expensive and unnecessary. (4)

ES UN HECHO: Las proteínas y los aminoácidos no se necesitan para el fortalecimiento de los músculos. La calidad de las proteínas que se encuentran en ciertas comidas como la carne, el pescado, las aves, frijoles, leche, queso y huevos, son la mejor fuente para el desarrollo del cuerpo. Los suplementos proteínicos son caros y no hacen falta.

IT'S A FACT: You must walk 35 miles to lose one pound of fat, but the 35 miles need not be walked at one time. Walking an additional mile each day for 35 days also will take off the pound. This means you can lose 10 pounds in one year by walking an extra mile a day -- providing that food intake and other physical activity remain the same. This really is not an impractical amount of time or effort! To lose more or faster, one needs only to increase the extent of activity.

ES UN HECHO: Una persona debe de caminar 35 millas para perder una libra de peso, pero las 35 millas no son necesarias que se caminen en un solo día. Cominando una milla diaria por 35 días tambien le harán perder una libra. Esto significa que puede perder 10 libras, en un año si camina una milla extra diaria -- tomando en consideración que el consumo de la comida y otra actividad física permanezca igual. Esto verdaderamente no significa una impráctica cantidad de tiempo y esfuerzo. Para perder peso rápido se necesita solamente aumento de actividad.

IT'S A FACT: Because the athlete's heart is so muscular, it can pump the same amount of blood with 50 beats per minute that the average heart pumps with 75 beats per minute. It works less, rests more, and consequently, takes a much longer time to wear out. (1)

IT'S A FACT: Exercise and good nutrition leads to fitness of the body and mind. Fitness helps alleviate signs of depression such as indecision and lack of zest for daily activities. Active and well nourished people are able to concentrate harder, perform better at work or school, and sleep more deeply at night. (5)

These are just some of the topics that the Nutrition 'Super Stars' program will focus on throughout the school year. Teachers, food service personnel, and school nurses are in the perfect position to help shape children's behavior while their eating and exercise patterns are being formed.
The 'Super Stars' staff looks forward to working with you to make nutrition education a real TEAM EFFORT.

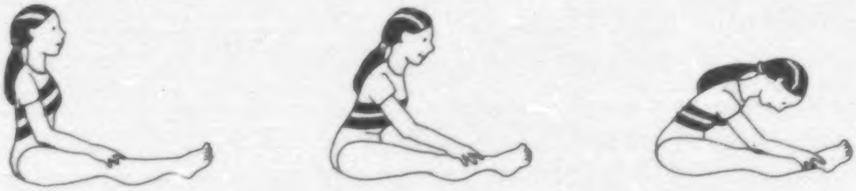
ES UN HECHO: Debido a que el corazón de los atletas es sumamente muscular, puede bombear la misma cantidad de sangre con 50 palpitaciones por minuto a comparación de un corazón normal el cual palpita 75 veces por minuto. Por lo tanto, dicho corazón trabaja menos, descanza más y consecuentemente durará más. (

ES UN HECHO: El ejercicio y una buena nutrición nos proporciona una buena salud, mental y física. La buena salud nos ayuda a aliviar los síntomas de depresión tales como la indesición y la carencia de entusiasmo para las actividades cotidianas. Personas activas y bien nutridas son capaces de concentrarse mejor, desarrollarse mejor en el trabajo o en la escuela y pueden dormir más profundamente por las noches. (5)

Estos son exactamente algunos de los temas qu el programa de nutrición 'Super-Estrellas' enfocará a través del año escolar. Maestros, personal del servicio de comidas y enfermeros escolares están dispuestos para ayudar a acondicionar el comportamiento de los niños durante sus comidas y al mismo tiempo el formar buenos hábitos de ejercicio. El personal de 'Super-estrellas' están ansiosos de trabajar con usted para hacer la educación nutritiva un verdadero éxito colectivo.

EXERCISE

EJERCICIO



Flexibility exercises stretch muscles and help prevent injury. Never bound or overstretch beyond the threshold of pain.

SITTING STRETCHES: Sit on floor, legs outstretched with feet about 6 inches apart. Slowly reach toward your foot and grasp your leg as far down as possible, moving your head as close to your knee as you can. Hold the stretch for 20-30 seconds. Relax and then repeat, alternating between left and right leg.

Ejercicios para la flexibilidad estiran los musculos y ayudan en impedir daño. Nunca salte o estire tras el princípio de dolor.

ESTIRONES SENTADOS: Sientese en el piso, las piernas extendidas, los piés como seis pulgadas aparte. Lentamente extienda la mano hasta el pié y aprieta la pierna lo más bajo posible, moviendo la cabeza lo más cerca posible a la rodilla. Mantenga el estiron por 20-30 segundos. Relaje y repita, tomando turnos entre la pierna izquierda y la derecha.

STRAWBERRY-YOGURT POPSICLES

Frozen strawberries, thawed, two
cartons, 10 oz. each
Unflavored gelatin, one tablespoon
Yogurt, plain, 16 oz.
Paper cups, three oz., 12
Wooden sticks, 12

Drain strawberries. Place drained liquid in a saucepan and sprinkle with gelatin. Cook over low heat stirring constantly, until gelatin dissolves. Mix strawberries, yogurt, and gelatin mixture in a blender until smooth. Place cups on a tray or in a baking pan. Fill with blended mixture and cover cups with a sheet of aluminum foil. Insert a stick for each popsicle by making a slit in the foil over the center of each cup. Freeze popsicles until firm. Run warm water on outside of cup to loosen each popsicle from the cup. Makes 12 popsicles, about 70 calories per popsicle.

PALETAS DE YOGURT DE FRESA

Fresas congeladas, descongeladas, 2
cartones de 10 onzas cada carton
Gelatina sin sabor, 1 cucharada de gelatina
Yogurt natural (sin sabor), 16 onzas
Tazas de papel, 12 tazas, 3 onzas
Palos de paleta, 12

Cuele el jugo de las fresas, ponga el jugo colado en una cazuela y salpique con la gelatina. Cocine sobre fuego bajo mezclando constantemente hasta que se disuelva la gelatina. Mezcle las fresas, el yogurt y la mezcla de gelatina en una licuadora hasta que todo este bien liquido. Ponga las tazas en una bandeja o en un molde de horno. Llene las tazas con la mezcla liquida y cubra las tazas con papel de aluminio. Haga una cortada en el centro de cada taza en el papel de aluminio e inserte un palo en cada taza. Congele las tazas hasta que esten firmes. Ponga agua tibia sobre el exterior de cada taza para soltar las paletas. Hace doce paletas, aproximadamente 70 calorias por cada paleta.

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5. Robert Johnson et al. *Exercise and Weight Control.* The President's Council on Physical Fitness and Sports, Washington, D.C., 1978.

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The next Nutrition "Super Stars" Newsletter will be coming your way in March.

La siguiente carta de las "Super Estrellas" les llegará en Marzo.

NUTRITION
Super Stars

Vol. 2, No. 2

EATING-SUPER STARS STYLE

Our eating habits have changed. In the last 10 years there has been an increasing trend away from eating basic foods to eating highly processed, convenience foods. As a result of these and other changes, most Americans eat too much sugar, fat, and salt.

After years of research, the United States Department of Agriculture (USDA) and the Department of Health and Human Services (DHHS) have come up with recommendations to put the nation back on a more healthful eating track. These recommendations are called the USDA-DHHS Dietary Guidelines and include the following recommendations:

- -Eat a variety of foods.
- -Maintain ideal weight.
- -Avoid too much fat, saturated fat and cholesterol
- -Eat foods with adequate starch and fiber such as fruits, vegetables, and whole grains.
- -Avoid too much sugar.
- -Avoid too much sodium.
- -If you drink alcohol, do so in moderation.

SUGAR

Sugar is the nation's most popular food additive with the average American eating more than 100 pounds of sugar a year (2). Much of the sugar we eat is hidden in processed foods. Sugar is not the only word to look for on labels. Watch for such words as sucrose, glucose, dextrose, fructose, corn syrups, corn sweeteners, natural sweeteners, invert sugar and honey. Remember that ingredients are listed on the label in decreasing order of contents. The ingredients used in largest amounts are listed first.

COMER EN EL ESTILO DE LAS SUPER-ESTRELLAS

Nuestros hábitos de comer han cambiado. En los últimos diez años ha habido un gran incremento de alimentarnos con comidas basicas por comer las altamente procesadas, es decir comidas de conveniencia. El resultado de estos y otros cambios es que la mayoría de los Americanos comen demasiada azúcar, grasas y sal.

Después de muchos años de investigación, el Departamento de Agricultura de Los Estados Unidos (USDA) y el Departamento de Salud y Servicio Humano (DHHS) tienen buenas recomendaciones para poner a la nación en un camino más saludable. Estas recommendaciones se llaman USDA-DHHS Metas Dieteticas (1) e incluyen lo siguiente:

- -Coma una variedad de comida.
- -Mantenga su peso ideal.
- -Evite demasiada grasa, grasa saturada y colesterol.
- -Coma comida con almidón y fibra adecuados.
- -Evite demasiado azúcar.
- -Evite demasiado sodio.
- -Si bebe alcohol, hágalo en moderación.

EL AZÚCAR

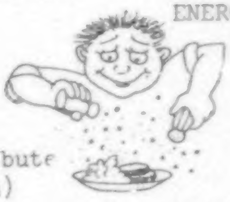
Azucar es uno de los preservativos más populares, y el Americano come más de cien libras de azúcar al año (2). Mucho del azúcar que comemos está en las comidas procesadas. En las etiquetas busque las palabras sucrosa, glucosa, dextrosa, fructosa, mieles de maiz, endulzadores de maiz, endulzadores naturales y miel de enjambre. Recuerde que estos ingredientes estan nombrados en el orden del más alto al más bajo.

Tome precaución cuando escoja todos los alimentos hechos con azúcar refinado. El azúcar es una comida de densidad baja de

Use caution when choosing all treats made with refined sugar. Sugar is a low nutrient density food -- it contains calories but no other nutrients. When sugars and sweeteners make up a large part of your calories, you may be missing out on your share of other needed nutrients found in foods - vitamins, minerals, and protein.

Sweet foods, especially sticky sweets, are a major cause of dental cavities (3). For cavity development, total amount of sugar eaten is not as important as how many times, how long, and the form of sugary food to which your teeth are exposed, and whether or not you clean your teeth after eating sugary foods.

If it is *energy* you need, eat a variety of foods evenly spaced throughout the day. Fats and carbohydrates in food provide needed calories to keep you ENERGIZED all day long.



SODIUM

Excess sodium in the diet may contribute to high blood pressure (hypertension) and stroke in some people (3). If you want to limit sodium intake, limit the use of table salt (sodium chloride) and foods which contain a lot of sodium.

To avoid too much sodium:

- -Learn to enjoy the unsalted flavors of foods.
- -Cook with only small amounts of added salt.
- -Add little or no salt to foods at the table.
- -Limit your intake of salty foods, such as potato chips, pretzels, salted nuts and popcorn, condiments (soy sauce, steak sauce, garlic salt), cheese, pickled foods and cured meats.
- -Read food labels carefully to determine the amounts of sodium in processed foods and snack items. You may be surprised to learn that some processed foods which contain no table salt and don't taste salty have lots of sodium. Look for the word "soda" or "sodium" or the symbol "Na" on labels.

nutrición -- tiene calorías pero ningunos otros nutrientes. Cuando los azúcares y sacarinas forman una gran parte de sus calorías, pierde la oportunidad de recibir nutrientes encontrados en comidas - vitaminas, minerales y proteínas.

Comidas dulces, especialmente chiclosas, son las mayores causas de cavidades dentales (3). Para el desarollo de las cavidades, la cantidad de comida consumida no es tan importante como cuantas veces, por cuanto tiempo, y la forma de alimentos azucarados a la cual sus dientes están expuestos, y si son o no son lavados después de comer alimentos azucarados.

Si es *energía* lo que necesitas, come una variedad le comidas eventualmente espaciadas durante el día. Las grasas y los carbohidratos en comida nos proveen las calorías necesitadas para mantenerse con ENERGIA durante todo el día.

EL SODIO

El exceso de sodio en la dieta es lo q[illegible] causa alta presión y ataques al corazon que paralizan el cuerpo (3). Si usted quiere limitar el consumo de sodio, limite la sal de mesa (cloruro de sodio) y comidas que tienen mucha sal.

Evitar demasido sodio:

- -Aprende a comer comidas con el sabor natural sin sal.
- -Cocine con limitada cantidad de sal.
- -No agrege sal a la comida en la mesa.
- -Limitese a comer comidas saladas como papitas, "pretzels", nueces y palomitas de maiz saladas, condimentos (salsa para bisteck, sal de ajo), queso, comidas curtidas.
- -Lea las etiquetas en las comidas procesadas y se sorprenderá de la cantidad de sodio que contienen. Tambien se dará cuenta que comidas procesadas que no saben saladas tienen un contenido muy alto de sodio. Busque la palabra "soda" y "sodio" o el símbolo "Na" en la etiqueta.

FAT

NO, THANKS! I'M LIMITING MY FAT INTAKE
BUTTER?

Fats in the diet come from fats occurring naturally in foods plus fats and oils added in preparing foods.

All fats, no matter what the source -- whether liquid oils, shortening, margarine, the marbling in meats, or the fat in milk and cheese -- have the same calorie value. However, saturated and polyunsaturated fats in diets differ in their effect on blood cholesterol.

High levels of cholesterol -- a fat like substance -- in the blood are linked to formation of fat deposits in the linings of arteries, a condition associated with heart disease. Cholesterol is present in our diet only in foods of animal origin. People who eat a high-fat diet, especially a high saturated-fat diet, often have higher levels of blood cholesterol. Diets with lower levels of fat and more polyunsaturated fat -- most vegetable oils -- are linked to lower levels of blood cholesterol and possibly less risk of heart disease.

Here are some suggestions to trim fat in your diet.

-Choose lean meat, fish, poultry, dry beans and peas as your protein sources.
-Include more of these foods in your meals: fruits, vegetables, breads, cereals, dry beans and peas.
-Limit your intake of butter, cream, hydrogenated margarines, shortenings and coconut oil, and foods made from such products.
-Trim excess fat from meats.
-Broil, bake, or boil rather than fry.
-Read labels carefully to determine both amounts and types of fat contained in foods.

There is controversy about what recommendations are appropriate for healthy Americans. But for the U.S. population *as a whole* reduction in our current intake of total fat, saturated fat, and cholesterol is sensible.

So the choice is yours. You can make changes in the way you eat -- or not! We think it is worth it.

LAS GRASAS

Las grasas en las comidas vienen de las grasas que ocurren naturalmente en comidas y las grasas y aceites que añadimos en preparar comida.

Todas las grasas no importa de donde provengan -- sean aceites líquidos, manteca, margarina, manteca en la carne, la grasa en la leche y en el queso -- tienen el mismo valor calórico. De todos modos saturadas y poliinsaturadas, grasas en dietas difieren en su efecto en el colesterol en la sangre.

Alto nivel de colesterol -- una sustancia similar a las grasas -- en la sangre estan relacionadas con la formación de depositos de grasas en las arterías, una condición asociada con enfermedades del corazón. Colesterol está presente en comidas de orígen animal. Personas que comen comidas muy grasosas - especialmente grasas saturadas, sequido tienen un nivel muy alto de colesterol en la sangre. En contraste, dietas que contienen grasas poliinsaturadas -- casi todas aceites vegetales -- tienen un nivel muy bajo de colesterol y menos riesgo de enfermedadas del corazón.

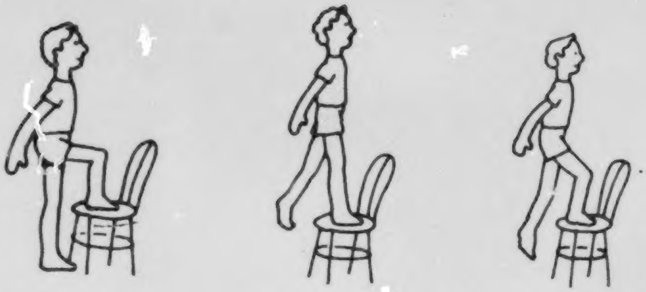
Si usted quiere reducir grasas en su dieta aquí están unas sugerencias:

-Escoja carnes sin grasas, pescado, pollo, semillas secas que son altas en proteínas.
-Incluya en su dieta frutas, verduras, pan, cereales, frijoles y chicaros.
-Reduzca en su dieta mantequilla, crema, margarina hidrogenada, mantecas, aceite de coco y comidas que contengan estas grasas.
-Recorte las grasas en la carne.
-Ase, hornee o hierva en lugar de freír.
-Lea etiquetas para determinar la clase y el tipo de grasa en la comida.

Hay una diferencia de opiniones en lo que es apropiado para un Americano saludable. Pero para la mayoría de los Estadounidences una reducción en las grasas, grasas saturadas y colesterol és lo apropiado.

La decisión es suya. Usted puede hacer cambios en su dieta -- o no. Creemos que vale la pena.

EXERCISE



EJERCICIO

Strength exercises develop strong, powerful muscles. They can be done using body weight as resistance.

Los ejercicios de fuerza desarollan músculos fuertes y firmes. Se pueden hacer usando el peso del cuerpo como resistencia.

STEP-UPS

Place your left foot on the seat of a chair and raise your body up until your left leg is straight. Do not rest on right leg. Step back down. Do this 10 times.

Begin again with right leg. Exercise each leg 3 times.

EJERCICIOS PARA LAS PIERNAS

Ponga el pie izquierdo en el asiento de una silla y párese hasta que la pierna izquierda esté recta. No descanse en la pierna derecha. Bájese. Haga esto diez veces. Empiece de nuevo con la pierna derecha. Ejerza cada pierna tres veces.

RECIPE OF THE MONTH

Quick Snack Mix

4 cups mini shredded wheats
1 cup unsalted peanuts
1 cup raisins
½ cup dried unsweetened coconut

Mix ingredients and serve. Makes 6½ cups. A delicious, nutritious snack!

LA RECETA DEL MES

Bocado Sencillo

4 tazas de trigo raído "mini"
1 taza de cacahuetes sin sal
1 taza de pasas
1/2 taza de coco seco, no endulzado

Mezcle los ingredientes y sirva. Hace 6 1/2 tazas. Un bocado delicioso y nutritivo.

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2. Page, L., and B. Friend, Level of Use of Sugars in the United States, in H. L. Sipple and K. W. McNutt, Eds., Sugars in Nutrition (New York: Academic Press, 1974).
3. Foods. United States Department of Agriculture, Home and Garden Bulletin Number 228, 1979.

The next Nutrition "Super Stars" Newsletter will be coming your way in April.

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La siguiente carta de las "Super Estrellas" les llegará en Abril.

NUTRITION Super Stars

Vol. 2, No. 3

PROUD TO BE ME

Remember back when you were twelve years old? There is a good chance you were experiencing the same growing pains your child is having right now.

Does this sound familiar? Jane is 12 years old and entering the world of adolescence. She wants to be a part of the in-crowd. All of the popular girls are pretty and early bloomers, and Jane wants to be like them. But when she looks in the mirror, she is not happy with what she sees.

Jane decides to diet. After two weeks of living on diet pop and lettuce, she looks in the mirror and Wonder Woman still isn't staring back. Jane figures she is always going to be "fat" and goes into hiding.

Young people are often dissatisfied with the way they look. One study of U.S. teenagers revealed that 59% of young men wanted to gain weight, although only 25% actually needed to do so. Similarly, 70% of the girls wanted to lose weight, but no more than 15% were obese.(1)

If you have a poor body image, you may see yourself as "fat", when actually you are broadly built, or as "skinny" because you have a lean build.

Why are you short? Tall? Fat? or Skinny? Those things depend on many factors, but a very important one is heredity. Were your parents tall? Chances are you will be too. Were they short? Then it is doubtful you will ever be 6 feet 3 inches. Your basic body type is also determined by heredity.

ORGULLOSO DE SER YO

¿Recuerdas cuando tenías doce años? Es muy probable que hayas experimentado los mismos problemas de crecimiento que tu hijo tiene ahora.

¿Suena esto familiar? Juana tiene 12 años y está entrando en el mundo de la adolescencia. Ella quiere ser parte del grupo selecto. Todas las niños populares son bonitas y se desarrollan prematuramente, y Juana quiere ser como ellas. Pero al mirarse al espejo, no se contenta con lo que vé.

Juana decide ponerse a dieta. Después de dos semanas de vivir a soda dietética y lechuga, se mira al espejo; pero la mujer maravilla continúa sin reflejarse. Juana imagina que siempre será "gorda" y empieza a esconderse.

Los jóvenos con frecuencia están insatisfechos de su apariencia. Un estudio de la juventud Americana reveló que el 59% de los muchachos querían ganar peso, a pesar de que sólo el 25% lo necesitaba. Igualmente, el 70% de las muchachas querían perder peso, aunque sólo el 15% estaban obesas.

Si tienes una pobre imágen de tu cuerpo, te verás "gorda", cuando en realidad tu complección es robusta, o "delgada" porque tu complección es esa.

¿Porque eres chaparro? ¿alto? ¿gordo? o ¿delgado? Esas cosas dependen de muchos factores, pero el más importante es la herencia. ¿Eran tus padres altos? Hay posibilidades de que tú serás alto también. ¿Eran chaparros? Entonces es poco probable que algún día midas 6 piés 3 pulgadas. Tu tipo básico de cuerpo es también determinado por herencia.

You inherit one or a combination of three basic body types.

ENDOMORPHS are short with narrow shoulders, wide hips, short fingers, and a short neck. (2)

ECTOMORPHS have long fingers and neck, sharp features and small skeletal muscles and bones, narrow wrists, and very little fat. (2)

MESOMORPHS have wide shoulders, narrow hips, large bones, and well-defined muscles. (2)

Tú heredas uno o una combinación de tres tipos básicos.

ENDOMORFOS son chaparros con hombros estrechos, cadera ancha, dedos cortos y un cuello corto.

ECTOMORFOS tienen dedos y cuello largos, facciones marcadas, músculos y huesos pequeños muñecas estrechas y muy poca grasa.

MESOMORFOS tienen hombros amplios, cadera estrecha, huesos largos y músculos bien definidos.

endomorph

mesomorph

ectomorph

These builds are extremes and most of us are a combination of types. But those who are mostly endormorphic will usually be on the stout side, ectomorphic will have trouble putting on weight, and mesomorphic will look muscular. But, does this mean that if your family tends toward plumpness, you must resign yourself to spending the rest of your life in a tent dress or with your belt in its last notch? NO! When it comes to weight, there are other factors just as important as heredity. Two key factors are diet and exercise.

You can improve your appearance and performance with exercise and a nutritious *ENERGY EFFICIENT* diet. When the number of calories you get in food each day balances the energy you use, your diet is *ENERGY EFFICIENT*. If you eat food which supplies *more* calories than you need for energy and growth, the extra amount will be stored as *fat*.

Estas complecciones son extremas y la mayoría de nosotros somos una combinación de tipos. Sin embargo quienes son principalmente endomórficos serán por lo regular robustos, los ectomórficos tendrán problemas en ganar peso, y los mesomórficos lucirán musculosos. Pero, ¿significa esto que si en tu familia tienden a gordos, tienes que resignarte a pasar el resto de tu vida con vestidos anchos con cintos en el último agujero? ¡NO! Cuando se trata de peso, hay otros factores tan importantes como la herencia. Dos factores clave son dieta y ejercicio

Tú puedes mejorar tu apariencia y actividad a base de ejercicio y una dieta nutritiva y *ENERGICO-EFICIENTE*. Cuando las calorías que ingieres de los alimentos balancea la energía que usas, tu dieta es *ENERGICO-EFICIENTE*. Si consumes alimentos que suplen *más* calorías de las necesarias para energía y crecimiento las extra calorías se almacenarán como *grasa*.

How active you are can influence your body shape too. Exercise can actually help reduce those urges to eat. (3) Not only that, physical activity improves the body's overall condition, and builds muscles tone and strength. Increasing the amount of time spent in sports or recreation takes planning, but the results can be seen in just a few weeks. Families can really benefit from the time they spend together swimming, bicycling, or walking. Remember, families who actively play together, stay *fit* together.

Qué tan activo eres puede influencias la forma de tu cuerpo también. El ejercicio reduce el apetito. No solo eso, la activida física mejora la condición general de tu cuerpo, le dá firmeza a los músculos y fortale Incrementar el tiempo dedicado a deportes o recreación requiere planeamiento, pero los resultados pueden ser vistos en unas cuantas semanas. En realidad las familias se benefician del tiempo que pasan juntas nadan andando en bicicleta, o caminando. Recuerda las familias que juegan juntas activamente, mantienen en *forma* juntas.

The *NUTRITION SUPER STARS* program teaches students how an energy efficient diet and exercise will help them and their families become *fit*.

El programa de *NUTRICIÓN PARA LAS SUPER ESTRELLAS* enseña a los estudiantes como una dieta energico-eficiente y el ejercicio los ayudará a ellos y a sus familias a estar en *forma*.

STEP RIGHT UP AND SHOUT
IT LOUD,
MY BODY'S GREAT AND I AM
PROUD!
THERE'S NO ONE ELSE I'D
RATHER BE,
I TREASURE THE PLEASURE
OF BEING

ME!

LEVÁNTATE Y GRITA,
MI CUERPO ES GRANDIOSO Y
ESTOY ORGULLOSO DE EL!
NO HAY ALGUIEN YO QUISIERA
SER,
ATESORO EL PLACER DE SER

¡YO¡

EXERCISE

Endurance exercises use the large muscles rhythmically. Running, swimming, cycling, roller skating, or cross-country skiing are examples of endurance exercises. Start these activities gradually. Work up to doing these activities at least 30 minutes, 3 to 5 times a week.

EJERCICIO

Los ejercicios de resistencia usan los músculos grandes ritmicamente. Correr, nadar, andar en bicicleta, patinar o esquiar de costa a costa son ejemplos de ejercicios de resistencia. Empieza lentamente con éstas actividades al menos 30 minutos de 3 a 5 veces por semana.

RECIPE OF THE MONTH

RECETA DEL MES

Banana Bits

Peel 2 bananas. Place whole bananas on aluminum foil or wax paper. Freeze bananas until completely frozen. Makes 2 servings. A great hot weather treat!

Peel 2 bananas and cut into bite-size chunks. Roll each piece in crushed dry-roasted unsalted peanuts. Makes 2 servings.

Pedacitos de Plátano

Pele dos plátanos. Coloque los plátanos sobre papel aluminio o papel encerado. Congélelos. Hace 2 porciones. ¡Delicioso bocadillo para climas calientes!

Pele 2 plátanos y córtelos en pedacitos. Cubra cada pieza con cacahuates molidos sin sal. Hace 2 porciones.

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4. Lucas, B. Nutrition and the Adolescent, in *Nutrition in Infancy and Childhood*. ed. P.L. Pipes (St. Louis: Mosby, 1977), pp. 132-144.)

The next Nutrition "Super Stars" Newsletter will be coming your way in May.

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La siguiente carta de las "Super Estrellas" les llegará en Mayo.

NUTRITION Super Stars

Vol. 2, No. 4

EATING ON THE RUN

People on the move know the importance of what they eat on their performance. They are sure to eat regularly throughout the day and make snacks count for extra energy and good nutrition. Most foods give you energy. Eating the right combination of foods at the right time will keep your energy level at its peak.

In some cultures, one or two meals a day is the custom; in others, up to six meals is traditional. Whether your meals total 2 or 6, they should add up to a well-balanced assortment of nutrients and calories. The recommendation to eat three meals a day is based on the finding that people who skip breakfast and/or lunch often overeat or make poor food choices when they finally do eat. Meal skippers are more likely to become obese or poorly nourished.(1)

Americans are busy people! Eating on the run is a way of life. Here are some foods you can eat on-the-go for breakfast.

- -Fresh fruits such as apples, bananas, oranges, strawberries, or tangerines.
- -Celery stuffed with peanut butter, meat or cheese spread.
- -Bagel or a hard roll and cream cheese.
- -Fruit or vegetable juices.
- -Tortillas and beans.
- -Yogurt.
- -Cheese and crackers.

COMIENDO A LA CARRERA

La gente ocupada conoce la importancia de lo que come para su funcionamiento. Se asegura de comer regularmente durante el día y tomar bocadillos que valgan por extra energía y buena nutrición. La mayoría de los alimentos te proporcionan energía. Comer la combinación apropiada de alimentos a su hora te ayudará a mantener tu nivel energético a su máximo

En algunas culturas se acostumbran una o dos comidas al día; en otras, hasta seis comidas es lo tradicional. Ya sea que tus comidas totalizen 2 o 6, éstas deben sumar un surtido de nutrientes y calorías bien balanceados. La recomendación de comer tres veces a día es basada en el descubrimiento de que la gente que no desayuna y/o no almuerza muchas veces se sobrealimenta o elige mal sus alimentos cuando finalmente come. Estas personas son más propensas a volverse obesas o malnutridas.(1)

¡Los Americanos son gente ocupada! Comer a la carrera es una forma de vivir. Aquí están algunos alimentos que puedes comer de pasada como desayuno.

- -Frutas frescas tales como manzanas, plátanos, naranjas, fresas o mandarinas.
- -Apio relleno con mantequilla de cacahuate, carne o queso de untar.
- -Bagel o bollo y queso crema.
- -Jugos de frutas o vegetales.
- -Tortillas y frijoles.
- -Yogurt.
- -Queso y pan.

There's no rule which says you must eat something as soon as you get up. If breakfast isn't your style...how about a mid-morning brunch? You will be more productive if you eat something during the course of your morning.

If your schedule does not permit time for full meals, your body need not be short-changed of nutrients. It's WHAT you eat that counts. Keeping an eye on your main goal -- a NUTRITIOUS-BALANCED diet -- is most important.

A nutritious-balanced diet starts with eating a VARIETY of foods which includes FRUIT-VEGETABLES, BREAD-CEREAL, MILK-CHEESE, AND MEAT-FISH-POULTRY-BEANS-NUTS. So it makes sense to eat food from these four groups for meals and snacks.

It takes skill and planning to make the best snack choices. The trick to smart snacking is to have tasty nutritious foods handy. You can't go wrong stocking up with foods like fresh fruits, juices, vegetables, yogurt, milk, cheese, nuts and whole-grain or enriched crackers. These foods make great snacks and contribute to your nutrient needs for protein, carbohydrate, fat, minerals, vitamins, and water.

Americans eat almost half their meals outside the home. A variety of foods are served in many restaurants, school cafeterias, and airlines. However, some fast food restaurants offer a limited number of foods which are also high in calories, salt, sugar, and fat. This can make selecting a nutritious balanced diet a real problem.

If you eat most of your food at restaurants and want what you eat to be nutritionally-balanced, try some of these suggestions.

No hay regla que diga que tienes que comer algo tan pronto te levantes. Si desayunar n es tu estilo ... ¿que tal una merienda a me mañana? Tú serás más productivo si comes algo en el transcurso de la mañana.

Si tu horario no te permite tiempo para comidas completas, tu cuerpo no tiene que limitarse de nutrientes. Es lo que comes lo que cuenta. Pon atención a tu meta principal - una dieta NUTRITIVO-BALANCEADA.

Una dieta nutritivos-balanceada empieza comiendo alimentos VARIADOS que incluyan FRUTAS-VEGETALES, PANES-CEREALES, LECHE-QUESOS y CARNES-PESCADOS-AVES DE CORRAL-FRIJOLES-NUECES. Por lo tanto es adequado comer alimentos de estos cuatro grupos para las comidas y bocadillos.

Se requiere habilidad y planeamiento para hacer la mejor elección de bocadillos. La maña para elegir bocadillos inteligentement es tener alimentos sabrosos y nutritivos a la mano. No puedes equivocarte al surtirte con alimentos tales como frutas frescas jugos, vegetales, yogurt, leche, queso, nueces y granos enteros o panes enriquecidos. Estos alimentos son buenos como bocadillos y contribuyen a complementarte con proteinas, carbohidratos, grasas, minerales, vitaminas y agua.

Los Americanos comen casi la mitad de sus comidas fuera de casa. Una variedad de alimentos son servidos en muchos restaurantes, cafeterías escolares, y aerolineas. Sin embargo, algunos restaurantes de comidas rápidas ofrecen un número limitado de alimentos cuyo contenido en calorías sal, azúcar y grasa es alto. Esto puede hacer de seleccionar una dieta nutritivo-balanceada un verdadero problema.

Si comes la mayoría de tus comidas en restaurantes y quieres que lo comes sea nutricionalmente balanceado, trata alguna de estas sugerencias.

To cut down calories and sugar:

- Look for soup and salad restaurants.
- Leave food on the plate! Cut portions in half, eat half, and take the other half home to enjoy for lunch or supper the next day.
- Pick a burger or sandwich without all the high calorie trimmings.
- Avoid soda. It's full of calories, but has no other nutrients. Opt for milk or juice instead.
- Skip rich desserts.

To cut down fat:

- Order lean meat or fish, and ask that it be baked or broiled, not fried.
- Skip the french fries, and order a baked potato - without sour cream.
- Try a salad topped with lemon juice instead of dressing.
- Ask for dishes without gravy or other sauces.

To improve the nutrient quality of your diet:

- Order fruits, juices, vegetables, and salads whenever available or bring your own.
- Request whole-wheat or other whole grain bread.
- Taste your food before adding salt.

Eating on the run doesn't have to be a trade-off between convenience and your health. If you follow these suggestions, you will be helping yourself to better health. (2)(3)

The Nutrition Super Stars program is over for the year. Our staff hopes you have learned how food, nutrition and physical fitness affect your health. Now the challenge is to use your knowledge to become a Nutrition Super Star. You owe it to yourself. We think it's worth it, don't you?

EXERCISE

Cardiovascular fitness is the capacity of the heart, lungs, circulatory and respiratory systems to do work and to quickly

Para reducir calorías y azúcar:

- Busca restaurantes de sopas y ensaladas.
- ¡Deja comida en tu plato! Divide los porciones a la mitad, come una mitad, y llévate la otra mitad a la casa para gozarl en el almuerzo o en la cena del día siguien
- Escoge una hamburguesa o emparedado sin tod los aderezos altos en calorias.
- Evita las sodas. Contienen muchas calorías, pero carecen de otros nutrientes. En su lugar opta por leche o jugos.
- Evita postres muy dulces.

Para reducir las grasas:

- Ordena carne magra o pescado, y pide que sea horneada o cocida, no frita.
- Evita las papas fritas, y ordena una papa horneada - sin crema agria.
- Trata una ensalada coronada con jugo de limón en lugar de aderezo.
- Pide los platillos sin gravy u otras salsas

Para mejorar la calidad de nutrientes en tu dieta:

- Ordena frutas, jugos, vegetales y ensaladas siempre que sean disponibles o trae la tuya propia.
- Pide pan de trigo ente u otro grano entero.
- Prueba la comida antes de añadir sal.

Comer a la carrera no tiene que ser un trueq entre conveniencia y tu salud. Si sigues éstas sugerencias estarás ayudandote tú mismo a mejorar tu salud.

El Programa de Nutrición para las Super Estrellas está terminado por el año. Nuestr grupo espera que hayas aprendido como los alimentos, nutrición y condición fisica afectan tu salud. Ahora el reto es usar tus conocimientos para convertirte en una Super Estrella en Nutrición. Te lo debes a tí mismo. Nosotros creemos que lo vales, ¿tú n

EJERCICIO

Condición cardiovascular es la capacidad del corazón, pulmones y sistemas circulatorio y respiratorio de trabajar y recobrarse recover when activity is over. This can be accomplished through regular endurance-type exercises such as swimming, cycling, running or roller skating.

Remember, heading down the road to fitness should be started slowly and then worked up to a higher level. As a guide, if you cannot carry on a normal conversation during endurance activities, you most likely are working harder than you should - SLOW DOWN! Exercising should be fun so find the type of activities that you enjoy and that fit into your lifestyle. The benefits you will derive occur when exercise is done regularly and consistently.

RECIPE OF THE MONTH

Fruit Juice Popsicles

Use your favorite FRUIT JUICE. Fill 6 6 oz. paper cups with the juice and put in freezer until the juice is partially frozen. Remove and insert a stick in the center of the cup. Return to freezer until the juice is frozen.

Suggestion: Run warm water over paper cup for a few seconds to loosen popsicle.

Calorie Content in 6 oz of juice:

Pineapple - 95	Orange - 90
Apricot Nectar - 105	Grape - 120

rapidamente después de terminar una actividad. Esto puede ser logrado a traves de ejercicios de resistencia hechos regularmente. tales como natación, ciclismo, carreras, o patinaje e[illegible] ruedas.

Recuerda, el proceso de acondicionarse fisicamente debe empezar lentamente y entonces aumentar tu nivel de actividad. Como una guía, si no puedes mantener una conversación normal durante tus ejercicios de resistencia, es probable que estés trabajando más duro de lo que debes - ¡CALMATE! El ejercicio debe ser divertido así que encuentra el tipo de actividades que se disfruten y se acomoden a tu estilo de vida. Los beneficios que obtendrás ocurrirán al hacer los ejercicios regular y constantemente.

RECETA DEL MES

Paletas de Jugo de Fruta

Usa tu jugo de fruta favorito. Llena 6 oz. de una tacita de papel con el jug[illegible] ponla en el congelador hasta que el ju[illegible] esté parcialmente congelado. Retirala e inserta un palito en el centro de la taza. Vuélvela al congelador hasta que el jugo esté congelado.

Sugerencia: Deja correr agua tibia sobre la tacita de papel por unos cuantos segundos para aflojar la paleta.

Contenido calórico por 6 oz. de jugo:

Piña - 95	Naranja - 90
Nectar de chabacano - 105	Uva - 120

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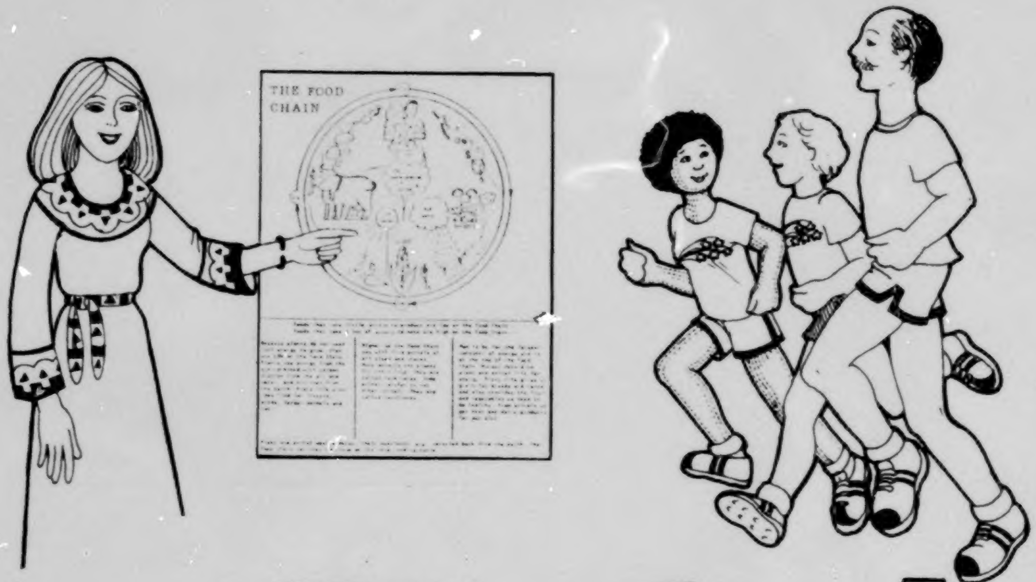

NUTRITION Super Stars

SPIRIT MASTERS

ARIZONA DEPARTMENT OF EDUCATION
Carolyn Warner, Superintendent
Dr. Jim Hartgraves, Deputy Superintendent

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WELCOME TO

NUTRITION Super Stars

Diet and physical fitness directly affect our health and our ability to learn and achieve our potential. Habits are formed at an early age. It is essential children learn to make food and activity choices that promote optimal health.

Teachers, school food service staff, and school nurses, as well as parents, are in a position to influence children's food and activity choices. The SUPER STARS Nutrition-Physical Fitness Kit provides a means for these "team" members and students to:

> Learn about the nutritional value of food and the relationship of food, nutrition, and physical fitness to growth, development, and health.
>
> Develop food and activity habits that will help promote good health.
>
> Share their knowledge with family members and the community.

CONTENT

The Nutrition "Super Stars" Kit includes 5 lessons with a teachers guide for 20 class plans plus the 44 spirit masters in this book.

LESSON I	Everybody's a "Star" (Body Composition)
LESSON II	Creating a "Star" (How Food Becomes You)
LESSON III	Shaping a "Star" (How Genetics and Lifestyle Affect Health Status)
LESSON IV	Making a "Super Star" (Health - How to Make it Happen)
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LESSON I - EVERYBODY IS A STAR	
Class I -The Cell - basic unit in body - parts and functions	Parent Letter #1 Fuel Burners #2 Cell Power #3
Class II -Everybody is a "Star" - body composition -Energy Nutrients - Fat, Carbohydrate, Protein	Everybody is a Star #4 Fueling Up #5
Class III -Food - energy measurement -Structural and Regulation Nutrients - Minerals and Vitamins	What is a Calorie? #6 Nutrient Stars #7
Class IV -Food Nutrient Identification	Nutrition Search #8 Vitamin B #9 Vitamin C #10 Calcium #11 Iron #12
LESSON II - CREATING A STAR	
Class V -Digestion	The Food Tube Puzzle Part A #13 Part B #14

Class VI	-Body Types; Endomorph, Mesomorph, Ectomorph -Nutritional Status - Measurements of Height, Weight, and Skinfolds	What Body Type are You? #16 Body Profile #17
Class VII	-Nutritional Status - Interpretation of Height, Weight, and Skinfolds	Know Your Body #18

LESSON III - SHAPING A STAR

Class VIII	-Why We Eat - Factors that Influence Our Eating Habits	Foodways #19 The Food Chain #20 Link the Foods #21
Class IX	-Food and Environmental Impact -Reading Labels -Advertising	Environmental Foodways #22 Food Labels #23 Food Advertising #24
Class X	-Class Work on Food Labeling and Food Advertising Handouts	
Class XI	-Class Report on Food Labeling and Food Advertising Handout	

LESSON IV - MAKING A SUPER STAR

Class XII	-Cells, Energy Transportation and the Heart -Pulse Rate and Exercise	Fueling Your Cells #25 Pulse #26
Class XIII	-Physical Fitness -Personal Fitness Test	Fitness Is? #27 Class Fitness Scores Part 1 #28 Part 2 #29
Class XIV	-Personal Fitness Test	
Class XV	-Personal Fitness Test - Review	Your Fitness #30 Exercise for Fitness #31 Exercise and Food Energy #32

LESSON V - FUELING A SUPER STAR

Class XVI	-Dental Health	Detergent Food...Cariogenic Food - It's Your Choice #33
	-Snacks and Calories	Snack Food Calories #34
Class XVII	-Nutrient Density	Snacking - The Choice Is Yours #35 Super Snacks #36
Class XVIII	-Goals for Healthful Eating	Eating on the Right Track #37 Exercise Energy #38
	-Planning a School Lunch	Plan a School Lunch #39
Class XIX	-Nutrition - Physical Fitness Case Studies	Be a Nutrition Super Star - The Choice Is Yours #40&41 Aerobic Super Stars #42
Class XX	-Evaluating Nutrition Information -Locating Nutrition Services -Nutrition Super Stars Snack Party	Nutrition Super Stars - Find The Facts #43 Fiesta Foods #44

EVALUATION

Teaching "teams" have field tested the SUPER STARS curriculum kit with successful results. The change scores on the pretest/posttest for knowledge, attitudes, and behavior practices in nutrition and physical fitness showed that students in classes that used the curriculum kit had significantly different scores ($p = .001$) that were higher than students in control groups. We hope you and your students will enjoy using this kit and learning how to become Nutrition SUPER STARS!

DIRECTIONS FOR DUPLICATING

These spirit masters must be used on a spirit or liquid-type process duplicator. Do not use on a gelatin-type duplicator.

Remove the spirit master from the book by carefully tearing along the perforated left edge.

To duplicate, place the spirit master with the ink side up on your machine. Place the top of the page under the clamp of the drum. Run off as many copies as you need for your class.

Many copies may be made from the spirit master if it is properly used. Heavier pressures and more fluid will result in sharper copies, but will decrease the number of copies you can make with each spirit master. Adjust the pressure according to your needs.

Save the spirit master for reuse. Remove it carefully from the machine and store it between the backing sheets in the book. Store the book in a cool, dry place.

NUTRITION
Super
Stars

Dear Parent:

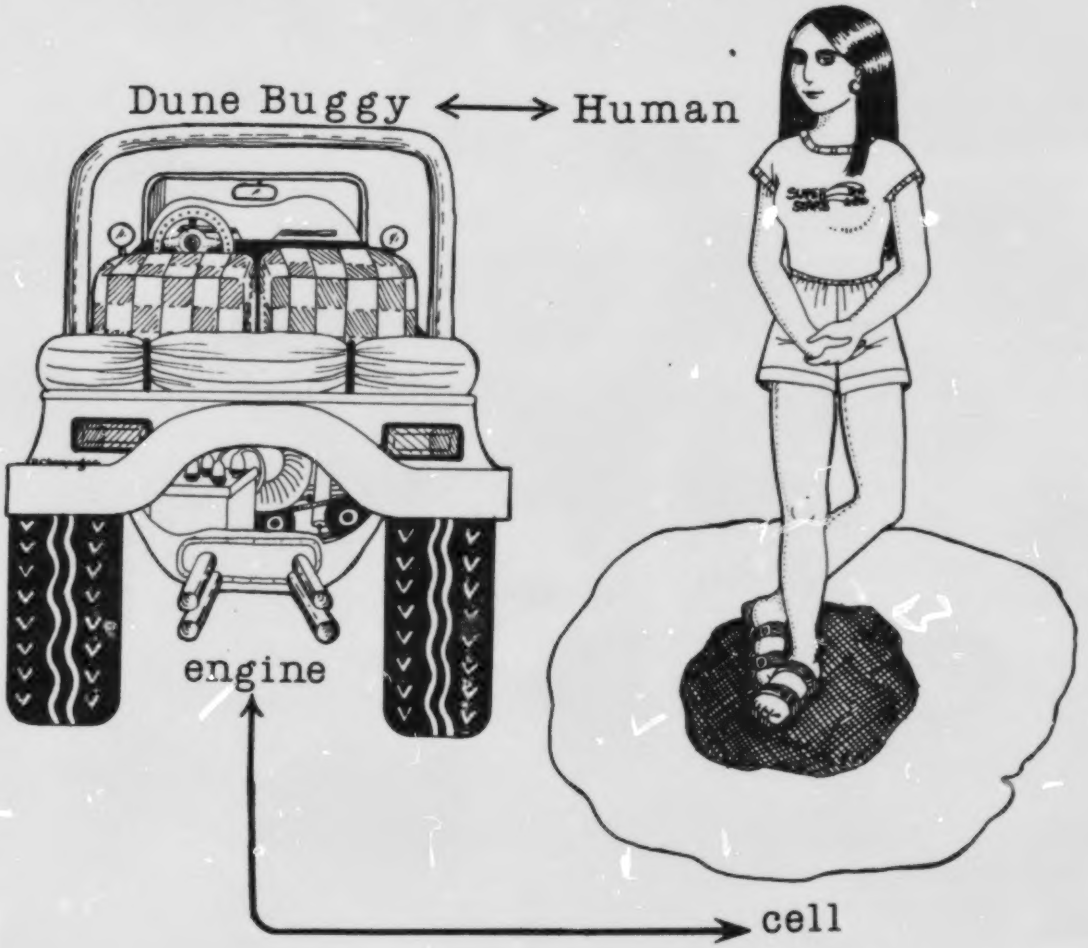
Our class is participating in a nutrition and physical fitness education program called NUTRITION SUPER STARS. This program is part of our class's science, health, and physical education curriculum. Through activities in the program, your child will learn about food, nutrition, fitness, and how they affect their health.

Activities in the program will be taught by a team of teachers. In addition to myself, the team members will include a food service staff member and our school nurse.

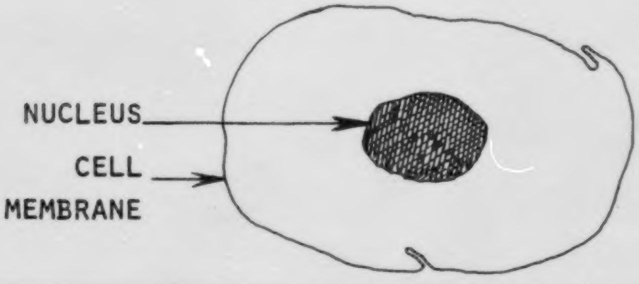
Newsletters will be sent home with your child to help keep you posted on the program. If you have any questions about the project, please contact me.

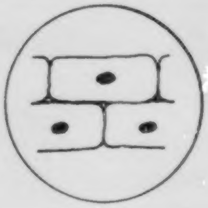
Sincerely,

FUEL BURNERS



Cells make up all living things. They are the basic living unit in our body. Just as the engine makes the car run, our cells are tiny engines that keep our body moving. *Cells* in different parts of the body look differently and perform different jobs. Some cells form our skin, bones, nerves, teeth, heart, and other organs just like metal, plastic, and rubber form the parts of an engine in a car. All cells have a nucleus and a cell membrane. The *nucleus* directs the activities of the cell. When a cell divides or uses food, the nucleus controls what happens. The *cell membrane* lets in nutrients from food and helps keep out harmful substances.





CELL POWER

1. Cut an onion in half.
2. Peel off an inside layer. On the outside of this layer you will find a transparent skin as thin as tissue paper. Pull off a small piece of this skin and place it in a drop of water on a glass slide.
3. Place one drop of iodine on the onion skin slice on the slide.
4. Flatten the onion slice with another glass slide.
5. Cover the flattened tissue with a cover glass. Look at the onion cells through the low power lens. The cells will look like bricks in a wall. Each brick is one cell. Draw and label what you see.
6. Now look through the high power lens. You will see that each cell contains a dark spot inside it. This is the *nucleus*. Draw and label what you see.

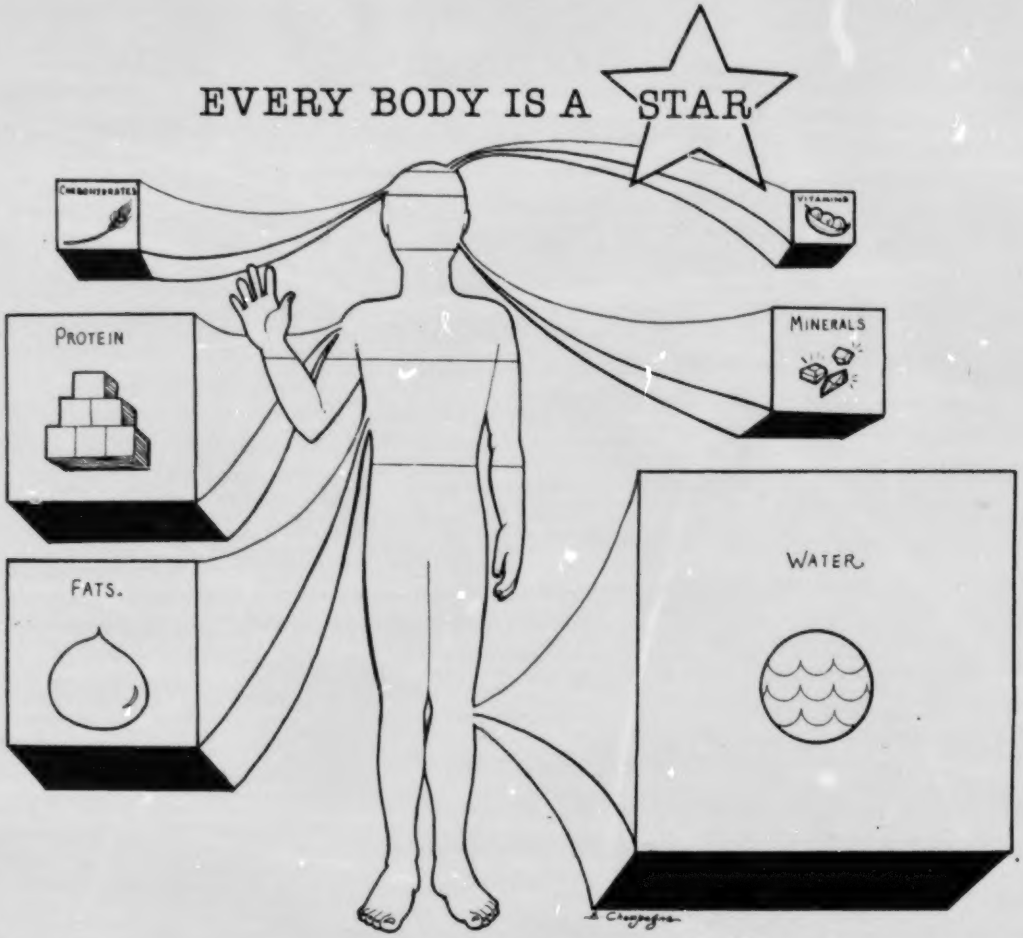
LOW POWER

HIGH POWER

1. Gently scrape the inside of your cheek with a toothpick.
2. Scrape some of the white material on the toothpick into a drop of water on a glass slide.
3. Spread the material out in the water, add a drop of iodine, and lay a cover glass over it.
4. Examine the material under the low power lens and the high power lens of the microscope. Draw and label what you see.

LOW POWER

HIGH POWER



Everybody is a "star" because the body is made of six nutrients: Fats, Carbohydrates, Protein, Minerals, Vitamins and Water. Since we are made of the same things, why are we shaped so differently? Your body composition is affected by your body type, sex, age, physical fitness, body weight, the way you eat and how healthy you are.

Your age is a factor that can change your body composition. Before puberty, both boys and girls have about the same amount of body fat. Now that you are becoming young men and women your sex hormones will start changing your body composition.

What you eat and how you exercise can affect your body composition. When you balance your food intake with exercise you can keep your body fat and weight at their best level.

If you want to be a SUPERSTAR eat a nutrient rich, energy efficient diet and keep your body physically fit.

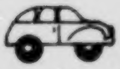
FUELING UP

What does your car need for energy? If you answered "gasoline", you were right. Just as a car must have gasoline for energy, the human body must have food. Your body gets energy from three nutrients in food.

Work the three puzzles below to find the ENERGY NUTRIENTS. The answers will appear in the outlined boxes.

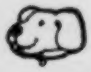
i	1. c	e
c	2. a	r
a	3. r	k
A	4. b	e
d	5. o	g
s	6. h	e
e	7. y	e
a	8. d	d
a	9. r	m
b	10. a	t
i	11. t	's
b	12. e	d
a	13. s	k

1. ___ cream.

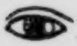
2. 

3. Noah's ___.

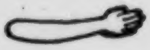
4. Honest ___ Lincoln.

5. 

6. He and ___.

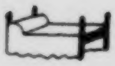
7. 

8. ___ and subtract.

9. 

10. ___ and ball.

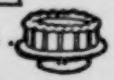
11. Contraction for It is.

12. 

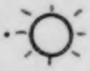
13. ___ a question.

	1. f	o	r	k
2. c	a	k	e	
3. s	t	a	r	
	4. s	u	n	

1. Knife, spoon and ___.

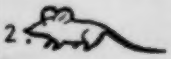
2. 

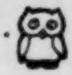
3. Wish upon a ___.

4. 

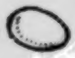
1. p	i	g
2. r	a	t
3. o	w	l
4. t	i	c
5. e	g	g
6. i	n	k
7. n	u	t
8. s	a	w

1. Pork comes from a ___.

2. 

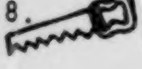
3. 

4. ___-tac-toe.

5. 

6. P[illegible] and ___.

7. Pea___ butter.

8. 

A car gets its energy from gasoline. My body gets its energy from

FATS, CARBOHYDRATES and PROTEINS.

FUELING UP

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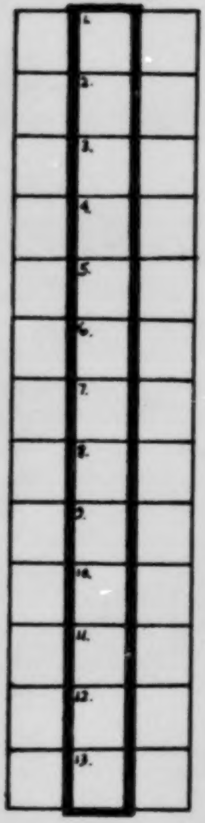

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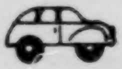
2. 

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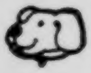
5. 

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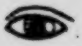
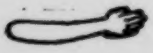
7. 

8. ___ and subtract.

9. 

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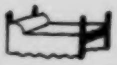
12. 

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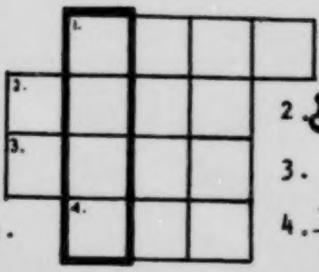

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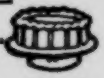
2. 

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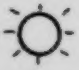
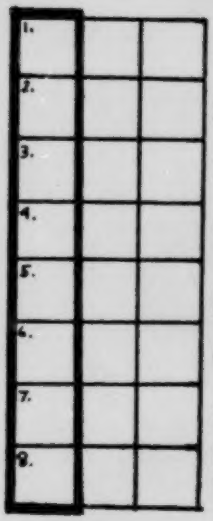
4. 



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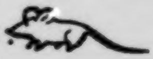
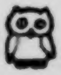
2. 

3. 

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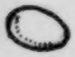
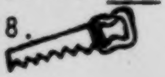
5. 

6. Pen and ___.

7. Pea___ butter.

8. 

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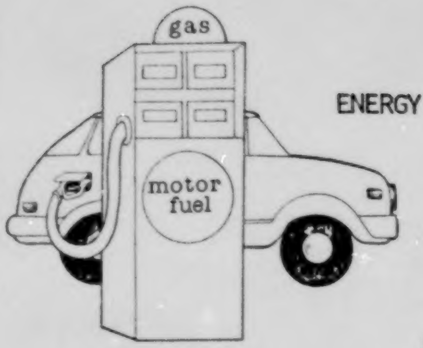
WHAT IS A CALORIE ?



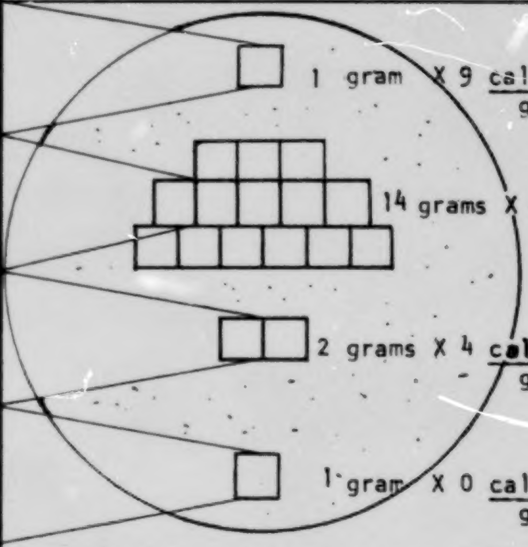
ENERGY IN FOOD IS MEASURED IN CALORIES

ENERGY

Energy comes in many forms

Gasoline provides energy for a car. Gasoline energy is purchased by the liter or gallon.

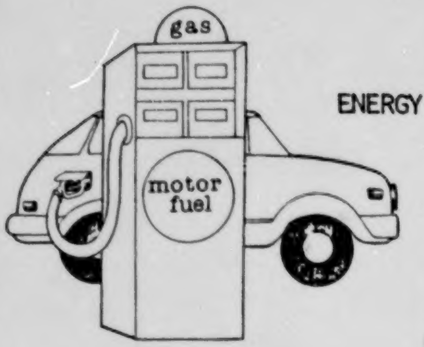
Fat, carbohydrate & protein in food provide energy for people. Nutrient energy is measured as calories.



Nutrient Calories		How many Calories are in 1 Corn Tortilla ?		
FAT Each gram has nine calories	ⓒⓒⓒ ⓒⓒⓒ ⓒⓒⓒ	1 gram X 9 $\frac{\text{calories}}{\text{gram}}$ =	9	Calories
CARBOHYDRATE Each gram has four calories	ⓒⓒ ⓒⓒ	14 grams X 4 $\frac{\text{calories}}{\text{gram}}$ =	56	Calories
PROTEIN Each gram has four calories	ⓒⓒ ⓒⓒ	2 grams X 4 $\frac{\text{calories}}{\text{gram}}$ =	8	Calories
WATER Each gram has zero calories		1 gram X 0 $\frac{\text{calories}}{\text{gram}}$ =	0	Calories
		TOTAL CALORIES IN ONE CORN TORTILLA =	73	CALORIES

HOW TO TELL HIGH CALORIE FROM LOW CALORIE FOODS

HIGH CALORIE FOODS are:	LOW CALORIE FOODS are:
THICK, OILY OR GREASY-CRISP	THIN, WATERY OR DILUTED
SLICK, SMOOTH OR GOOEY	BULKY or have lots of FIBER or COARSENESS
SWEET OR STICKY	WATERY-CRISP instead of greasy-crisp
COMPACT OR CONCENTRATED	
ALCOHOLIC	



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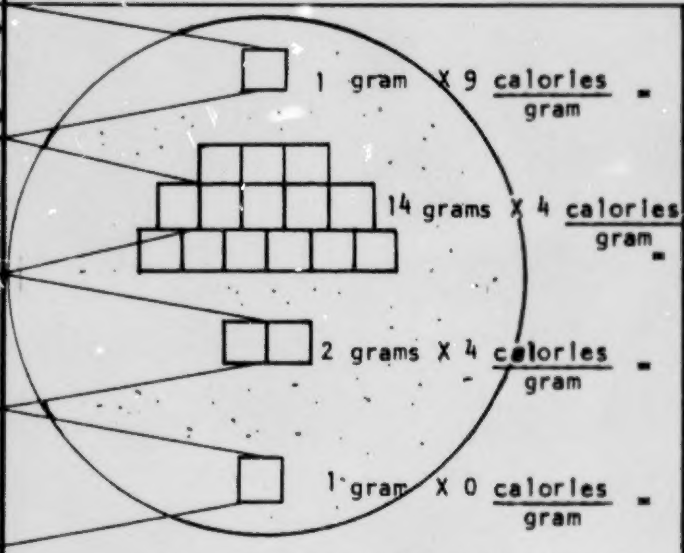

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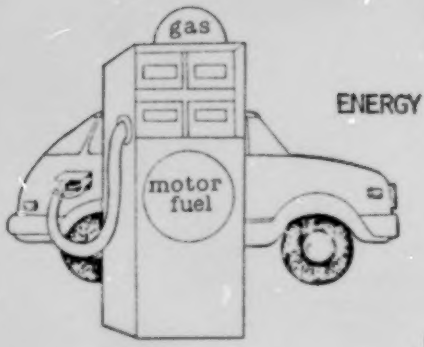

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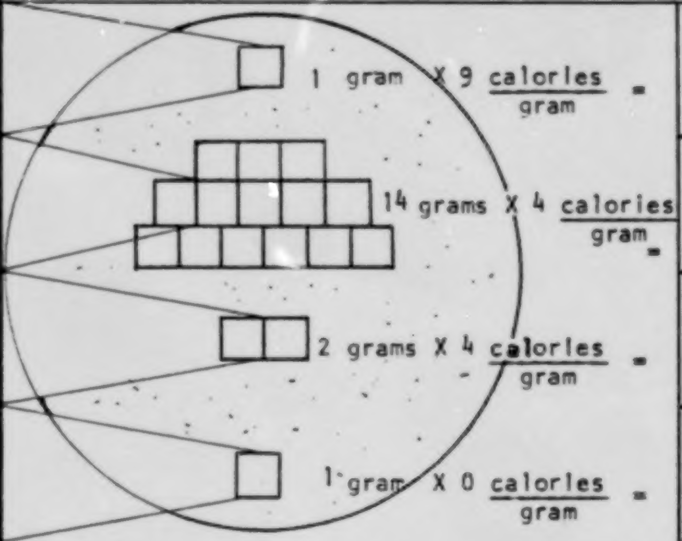

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COMPACT OR CONCENTRATED	
ALCOHOLIC	

NUTRIENT STARS

Food contains nutrients. Each nutrient has a star role in meeting your body needs for energy, growth and health.

ENERGY NUTRIENTS

Two nutrients, fat and carbohydrate, are high-powered fuels that give you ENERGY. Another nutrient, protein, can give your body energy if there is not enough fat or carbohydrate in your diet to supply your energy needs.

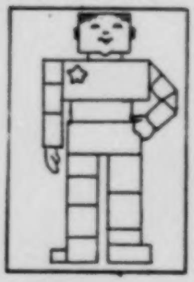
FATS

Fats supply a large amount of energy in a small amount of food. Your body fat cushions your organs against injury. Fats also carry vitamins A, D, E,and K in the blood to your cells. Foods high in fat are butter, margarine, shortening, salad oils, cream, most cheeses, mayonnaise, salad dressing, nuts and bacon.

CARBOHYDRATES

Carbohydrates are the major source of energy in our diet. Carbohydrates are starches and sugars found in cereal grains, fruits, vegetables and sweet foods. Candy, jelly and jam all contain sugar. Starch is a long chain of sugars which the body breaks down to simple sugar. Foods with starch come from plants. Starchy foods are potatoes. dried beans, corn and foods made from grain, like cereal and bread.

PROTEIN



Nearly everything in your body is made of protein. This includes your hair, bones, muscles, teeth and even your brain. The protein you eat gets broken down and built back up into all of these parts of your body. You need protein to build cells and repair them. What foods have protein? Most people think first of meat, fish and chicken. But milk, nuts, cheese, peanut butter, eggs, beans and grains also have protein.

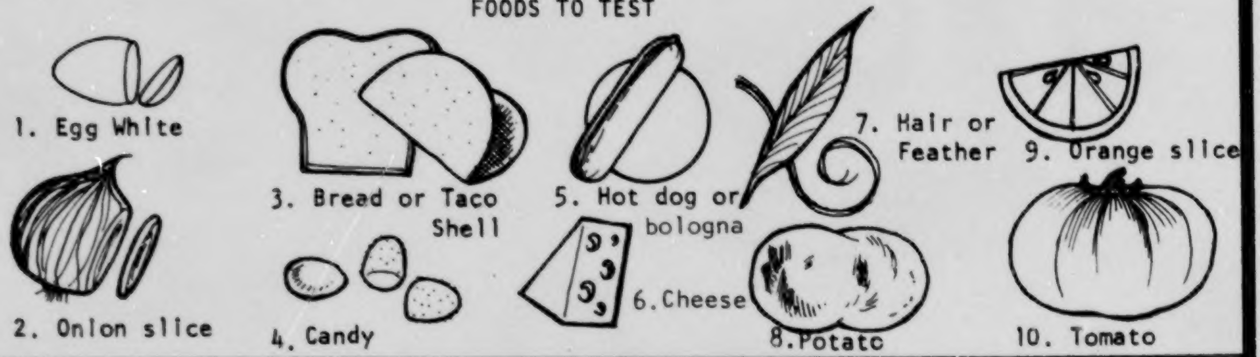
ENERGY REGULATORS

VITAMINS & MINERALS

Vitamins and minerals are necessary fuel extras. They must be supplied to our body from the food we eat. Vitamins and minerals do not supply energy, but do help your body use the nutrients in food. The "vita" in vitamins means "life" because vitamins are essential to health, growth and life itself. Many different minerals are needed for growth and developement of tissues like bone and blood.

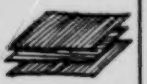
NUTRITION SEARCH

FOODS TO TEST



FAT FINDER

1. CUT UP PAPER SQUARES



2. RUB FOOD ON PAPER. LET IT DRY.

3. IF FAT IS PRESENT, THE LIGHT WILL SHOW THROUGH.

PROTEIN HUNT

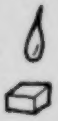
1. LAY DOWN A PIECE OF ALUMINUM FOIL.

2. HOLDING FOOD WITH A TOOTH-PICK, BURN WITH LIGHTER OR OIL LAMP.

3. IF PROTEIN IS PRESENT, YOU WILL SMELL A STRONG UNPLEASANT ODOR.

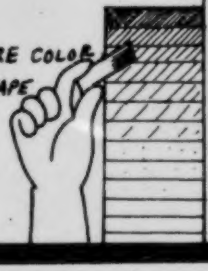
SUGAR SEARCH

1. MOISTEN FOOD WITH WATER.



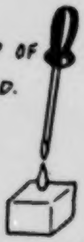
2. LAY STRIP OF TEST TAPE ON FOOD

3. COMPARE COLOR OF TEST TAPE TO COLOR CHART.

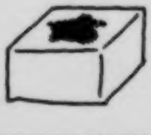


STARCH SEARCH

1. PUT A DROP OF IODINE ON FOOD.



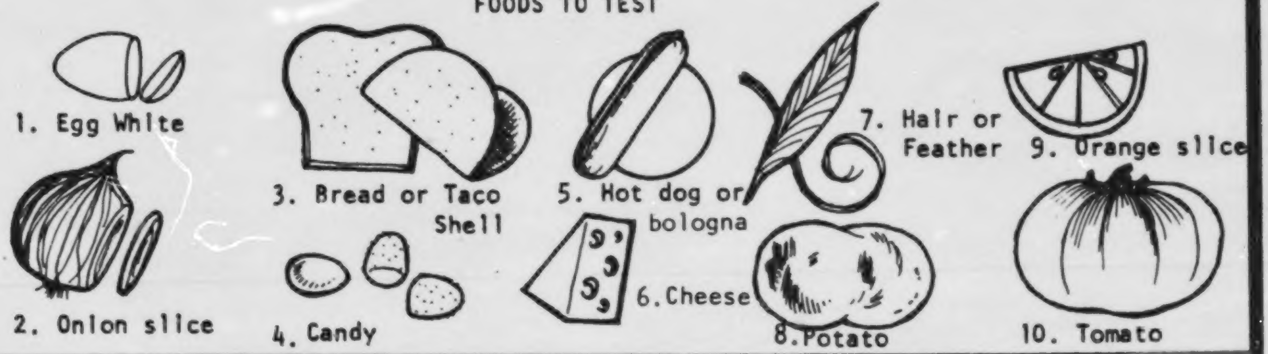
2. IF STARCH IS PRESENT, THE IODINE WILL TURN BLUE - BLACK



As you perform each test, put a check next to the foods that contain the nutrient tested for.	FAT	PROTEIN	SUGAR	STARCH
1. EGG WHITE		✓		
2. ONION SLICE			✓	✓
3. BREAD or TACO			✓	✓
4. CANDY			✓	
5. HOT DOG	✓	✓	✓	
6. CHEESE	✓	✓		
7. HAIR OR FEATHER		✓		
8. POTATO			✓	✓
9. ORANGE			✓	✓
10. TOMATO			✓	✓

NUTRITION SEARCH

FOODS TO TEST



1. Egg White
2. Onion slice
3. Bread or Taco Shell
4. Candy
5. Hot dog or bologna
6. Cheese
7. Hair or Feather
8. Potato
9. Orange slice
10. Tomato

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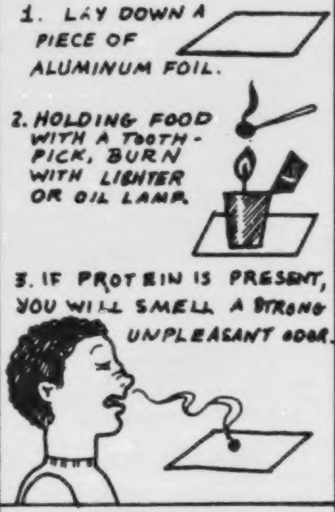

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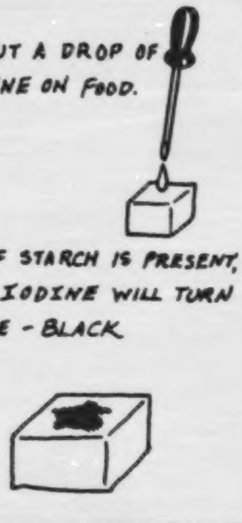

1. PUT A DROP OF IODINE ON FOOD.
2. IF STARCH IS PRESENT, THE IODINE WILL TURN BLUE - BLACK

As you perform each test, put a check next to the foods that contain the nutrient tested for.

	FAT	PROTEIN	SUGAR	STARCH
1. EGG WHITE				
2. ONION SLICE				
3. BREAD or TACO				
4. CANDY				
5. HOT DOG				
6. CHEESE				
7. HAIR OR FEATHER				
8. POTATO				
9. ORANGE				
10. TOMATO				

VITAMIN B

HELPS NERVES WORK

HELPS RELEASE ENERGY FROM FOOD

Each of these scrambled words is the name of a food that is a good source of Vitamin B. Unscramble them to find the foods.

(Hint: The first letter of each word is caitalized.)

ANSWERS: 1. Meats 2. Milk 3. Whole Grains 4. Enriched Bread 5. Enriched Cereals 6. Pork 7. Beans 8. Peas 9. Liver 10. Kidney 11. Organ Meats.

atsMe	Meats
kilM	Milk
leoWh Grinas	Whole Grains
richEned dreaBs	Enriched Breads
ridichnEe alsreCe	Enriched Cereals
kroP	Pork
sneaB	Beans
saPe	Peas
Livre	Liver
neyKid	Kidney
ganOr Mesat	Organ Meats

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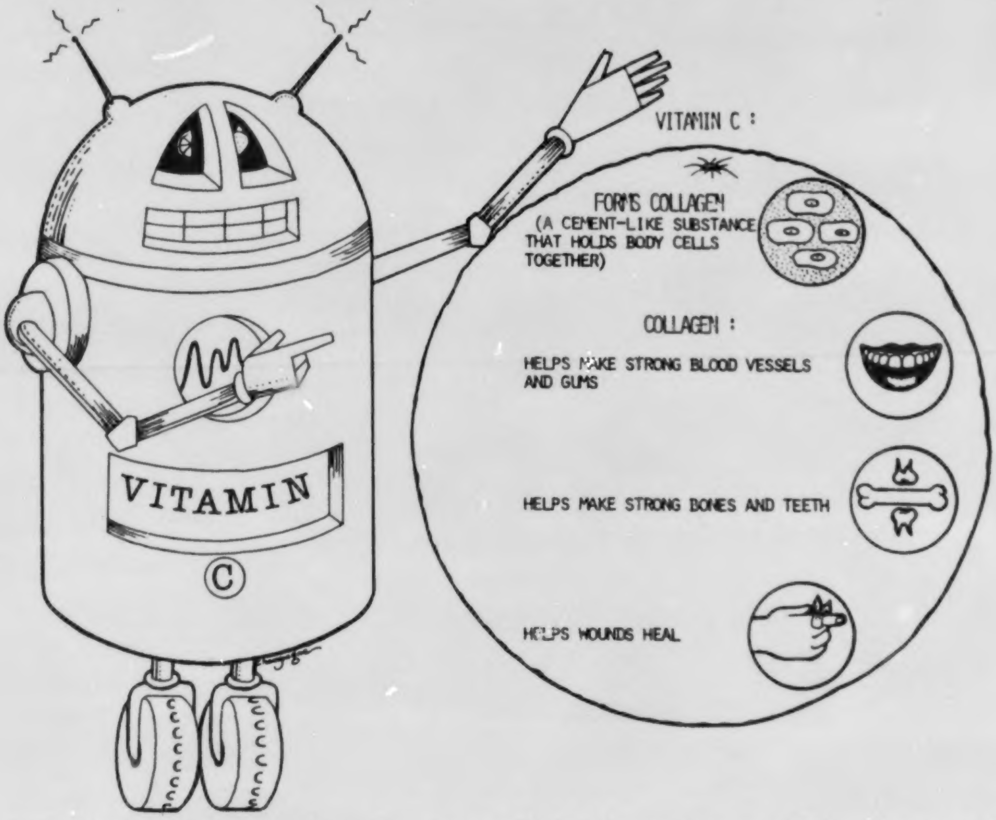
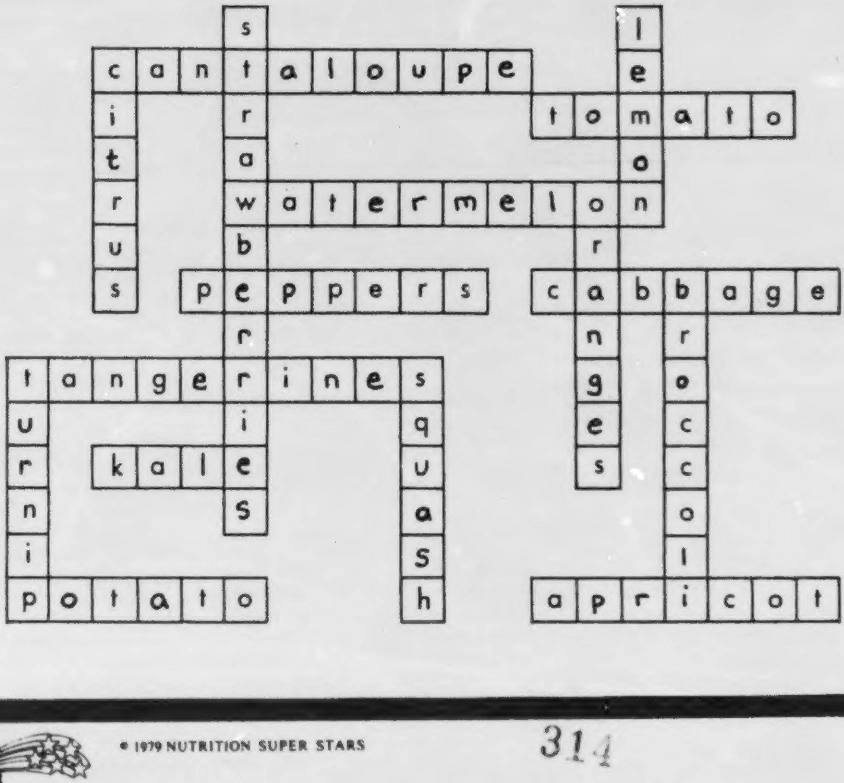
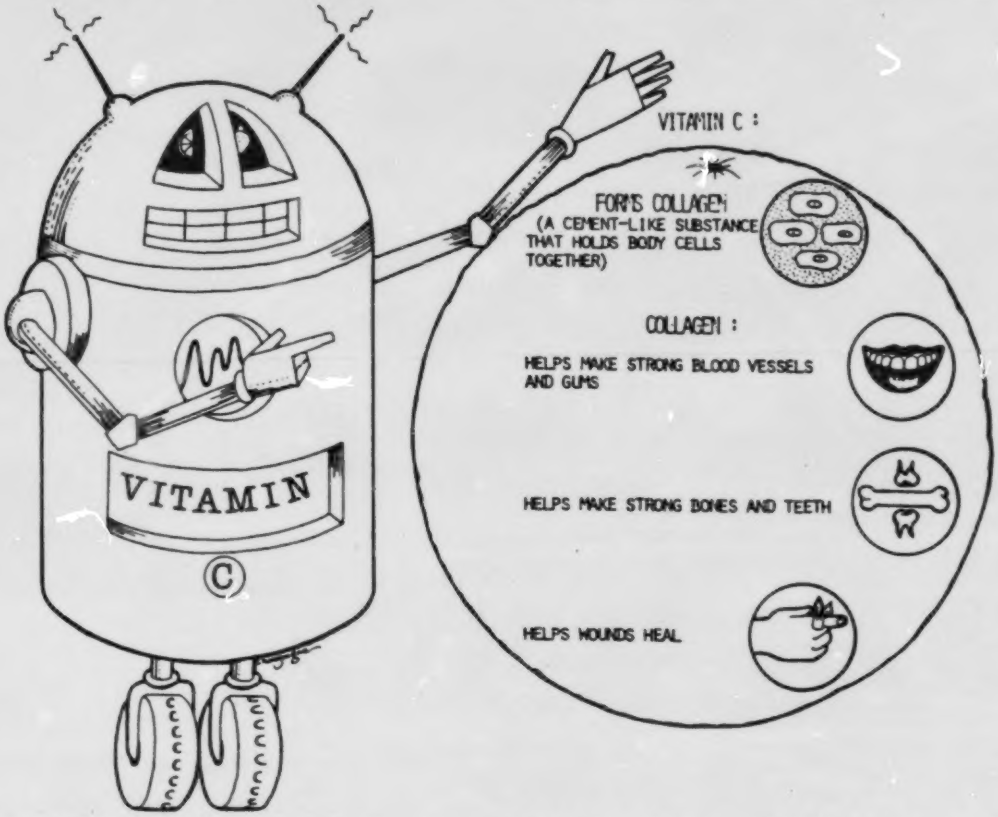
atsMe	M_ _ _ _
kilM	M_ _ _
leoWh Grinas	W_ _ _ _ G_ _ _ _
richEned dreaBs	E_ _ _ _ _ _ _ B_ _ _ _
ridichnEe alsreCe	E_ _ _ _ _ _ _ C_ _ _ _ _ _
kroP	P_ _ _
sneaB	B_ _ _ _
saPe	P_ _ _
Livre	L_ _ _ _
neyKid	K_ _ _ _ _
ganOr Mesat	O_ _ _ _ M_ _ _ _

ANSWERS: 1. Meats 2. Milk 3. Whole Grains 4. Enriched Bread 5. Enriched Cereals 6. Pork 7. Beans 8. Peas 9. Liver 10. Kidney 11. Organ Meats.


VITAMIN
C
VITAMIN C :
FORMS COLLAGEN
(A CEMENT-LIKE SUBSTANCE THAT HOLDS BODY CELLS TOGETHER)
COLLAGEN :
HELPS MAKE STRONG BLOOD VESSELS AND GUMS
HELPS MAKE STRONG BONES AND TEETH
HELPS WOUNDS HEAL

Fill in the puzzle below to find the names of fruits and vegetables that are high in vitamin C. (If you need help, look in 'Food-A Key to Better Health' or 'Food is More than Just Something to Eat').

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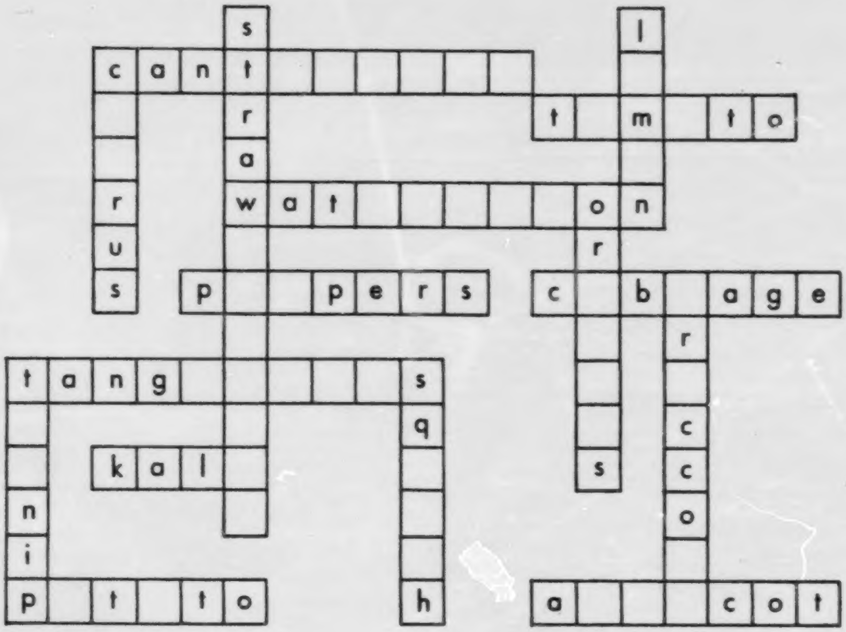
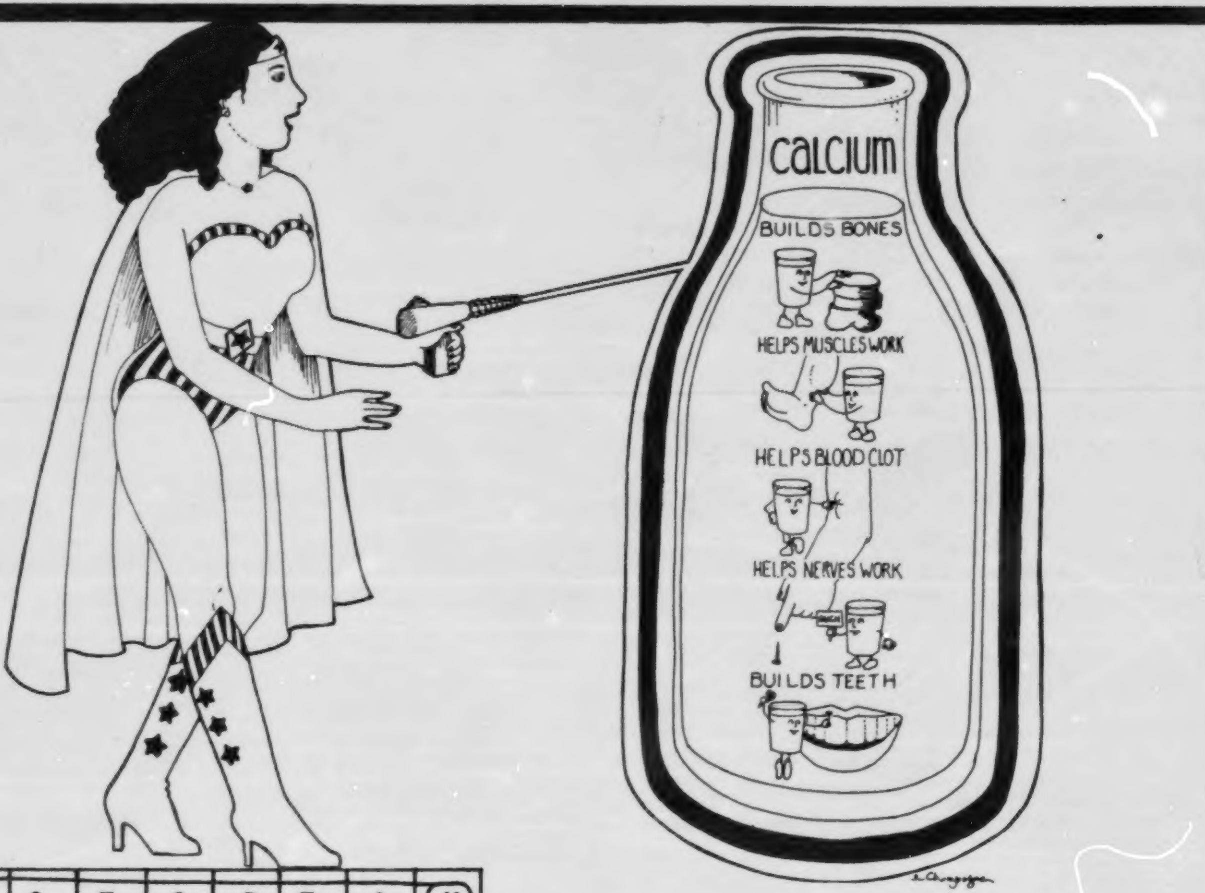


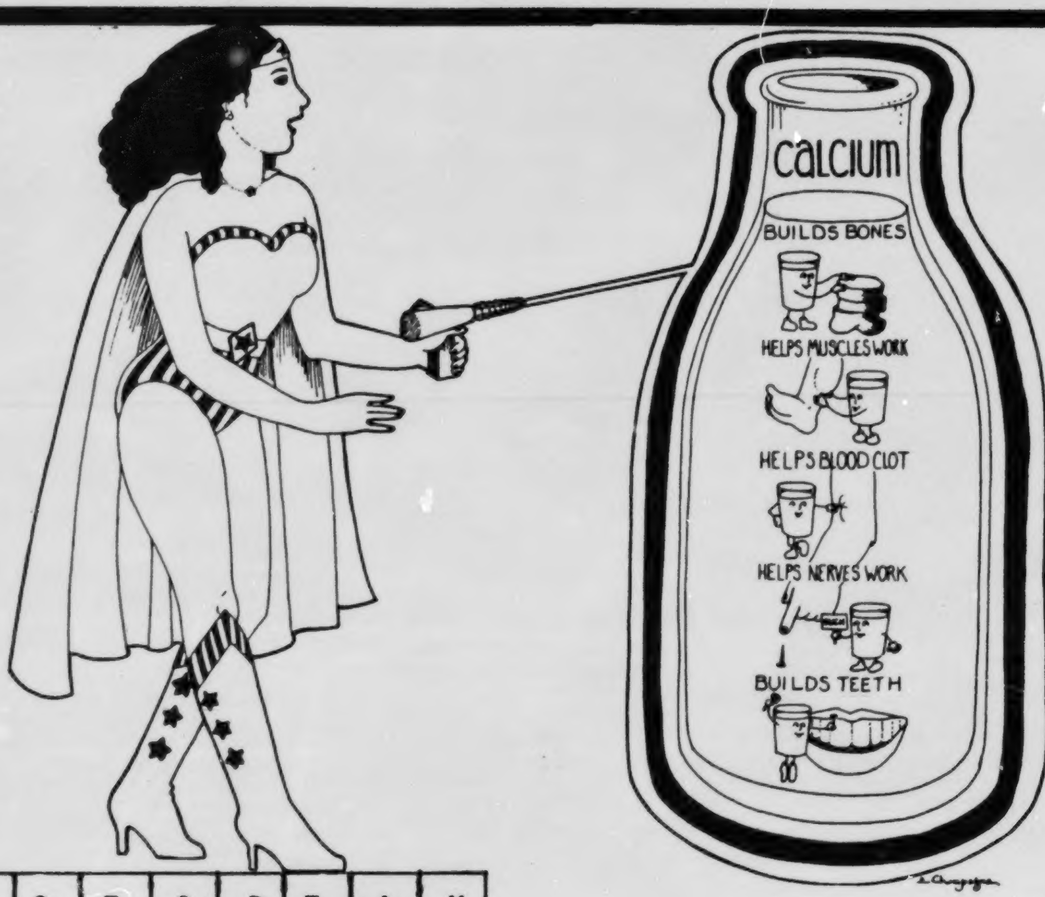


I	C	E	C	R	E	A	M
U	E	G	G	N	O	G	U
Y	O	G	U	R	T	B	S
M	I	O	K	S	R	U	T
T	S	X	A	B	C	T	A
D	I	F	L	W	U	T	R
S	C	H	E	E	S	E	D
H	E	B	Z	C	T	R	G
A	M	E	J	F	A	M	R
K	I	A	R	A	R	I	E
E	L	N	E	P	D	L	E
U	K	S	M	I	L	K	N

SCRAMBLE FOR CALCIUM

There are about 11 food words hidden in the scramble. All of the foods are good sources of calcium. Find the words and circle them. Some are straight across and some are straight down. Circles may overlap.

Did you find: Ice cream, Eggnog, Mustard green, Yogurt, Kale, Shake, Ice milk, Beans, Cheese, Milk, Buttermilk, and Custard



I	C	E	C	R	E	A	M
U	E	G	G	N	O	G	U
Y	O	G	U	R	T	B	S
M	I	O	K	S	R	U	T
T	S	X	A	B	C	T	A
D	I	F	L	W	U	T	R
S	C	H	E	E	S	E	D
H	E	B	Z	C	T	R	G
A	M	E	J	F	A	M	R
K	I	A	R	A	R	I	E
E	L	N	E	P	D	L	E
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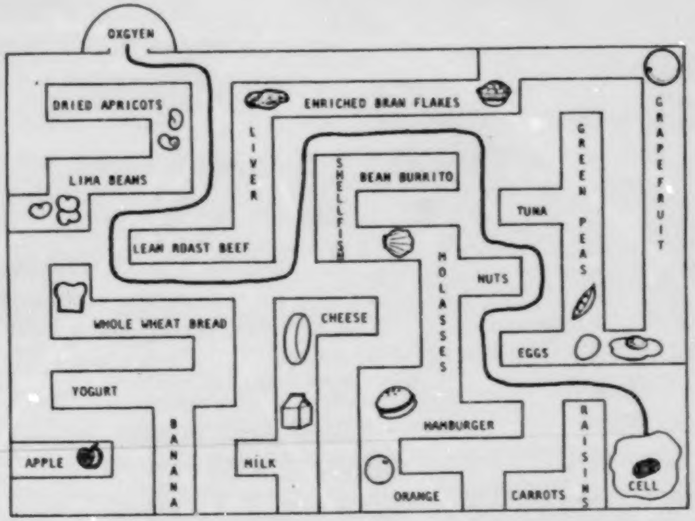
IRON

Iron helps carry oxygen to all the different cells of the body.

Can you find the way oxygen must travel to reach the cell?
Following the foods that are a good source of iron should help oxygen get there quicker.

Can you identify some of the food sources of iron?



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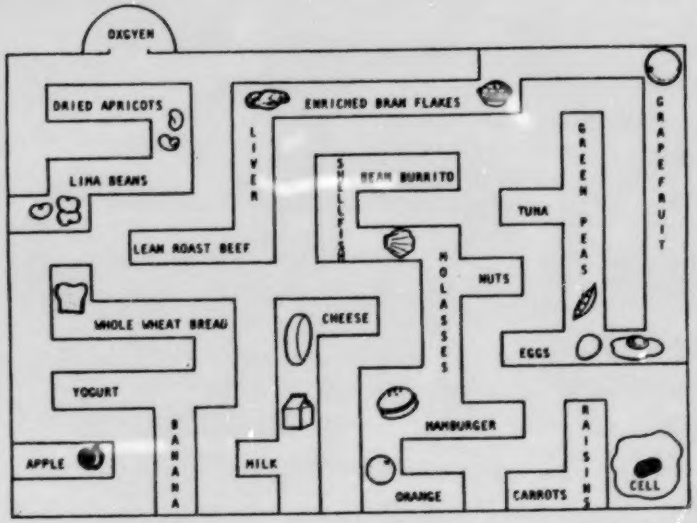
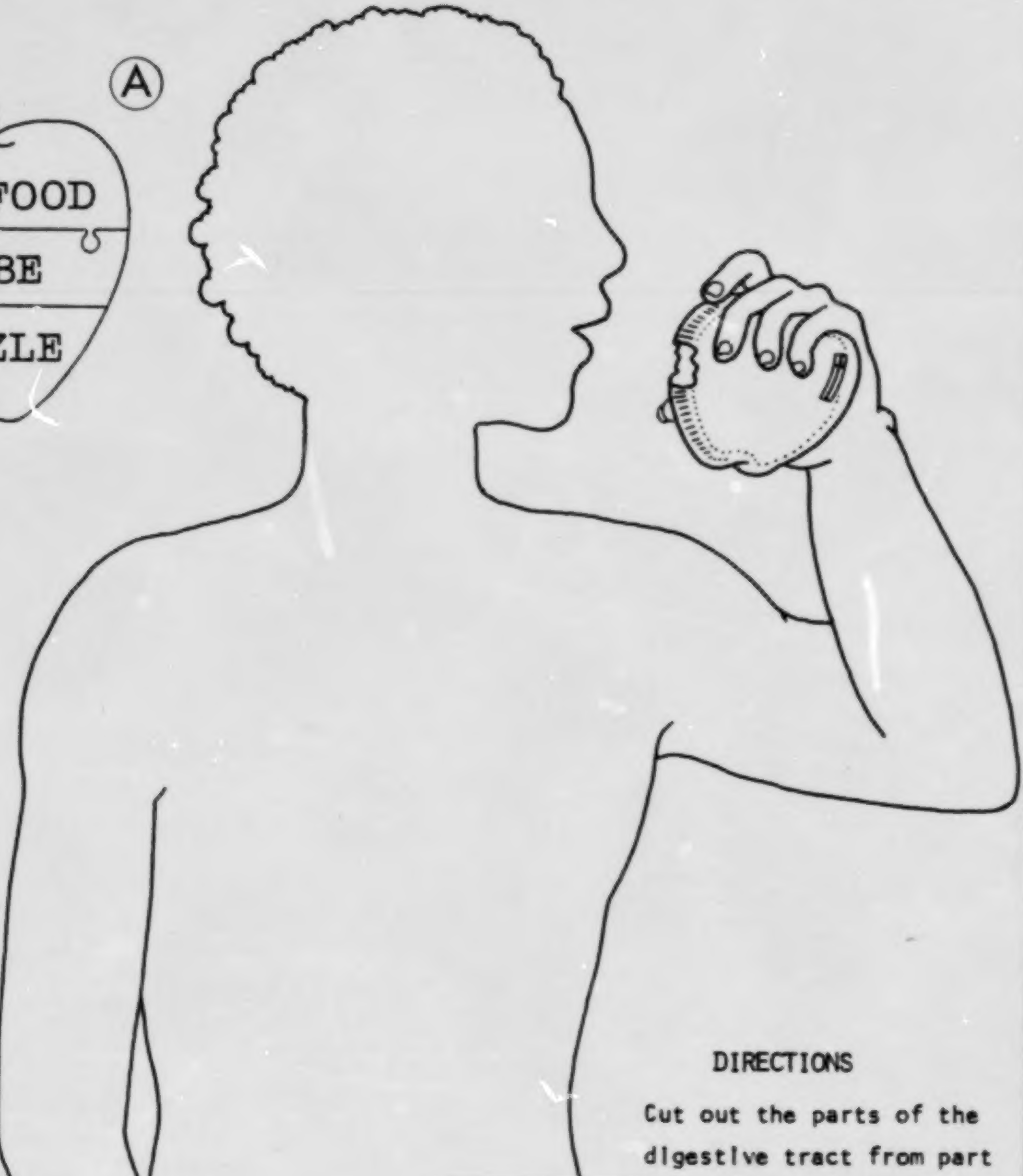


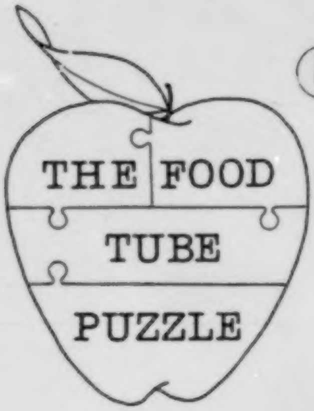
THE FOOD TUBE PUZZLE

Ⓐ



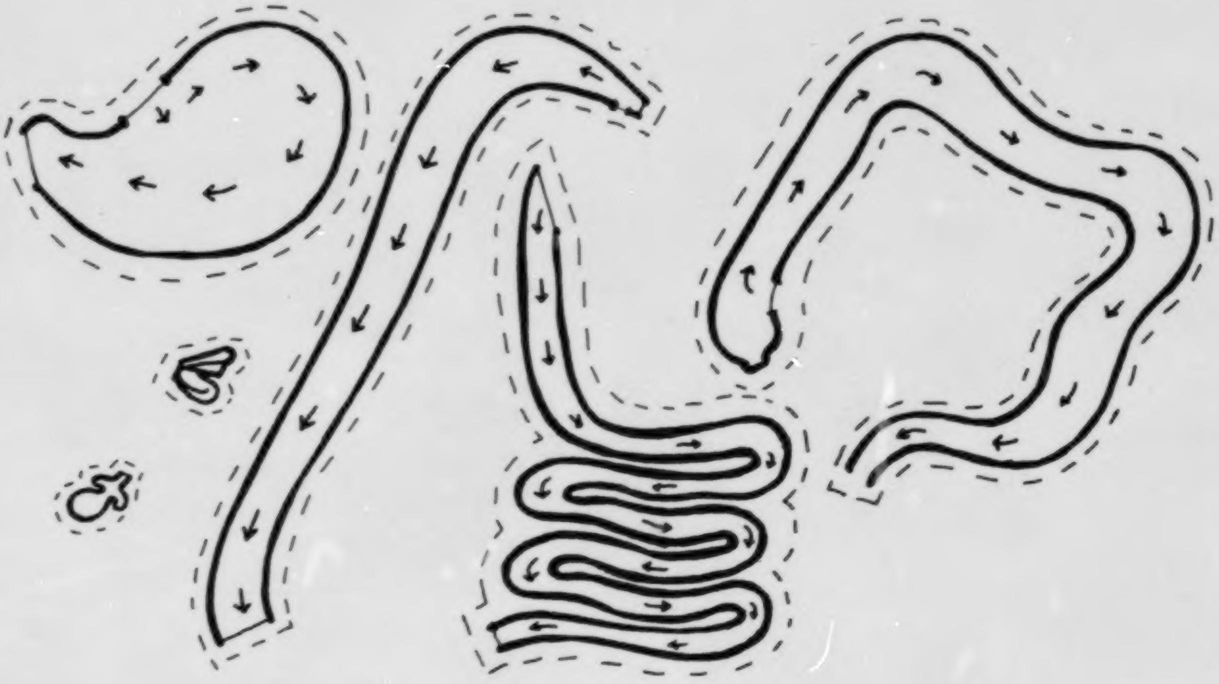
DIRECTIONS

Cut out the parts of the digestive tract from part B. Place the parts in the proper place inside the body outline. Label the parts using the names provided from part B.



THE FOOD TUBE PUZZLE

Ⓑ



small intestine

stomach

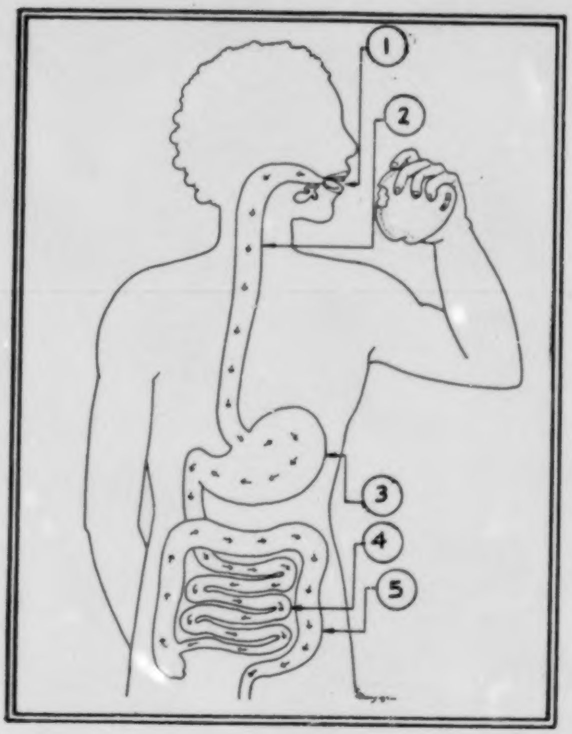
mouth

large intestine

esophagus

salivary gland

THE FOOD TUBE



Digestion takes place in a tube called the digestive tract. It consists of:

(1) mouth and throat
(2) esophagus
(3) stomach
(4) small intestine
(5) large intestine

Look at the diagram and number the parts of the digestive tract. Notice the location of the stomach. It lies mostly above the waist. Many pains called stomach aches are farther down the digestive tract, in the intestines. Your digestive tract is about five times as long as your body!

Think for a minute. How tall are you? ____feet ____inches or _____cm. How long is your digestive tract? ____feet ____inches ____cm. Look at the diagram again. Which part of the digestive tract is the longest? small intestine (4)

The process of *metabolism* is made up of digestion, absorption, transportation, and excretion.

Digestion involves a series of steps. These steps are:

Chewing is the physical break down of food in the mouth.

When we chew, we mix our food with saliva from the salivary glands.

Try this experiment: Touch the tip of your tongue to the roof of your mouth. Leave it there for about one minute. Do you feel the saliva gathering in your mouth?

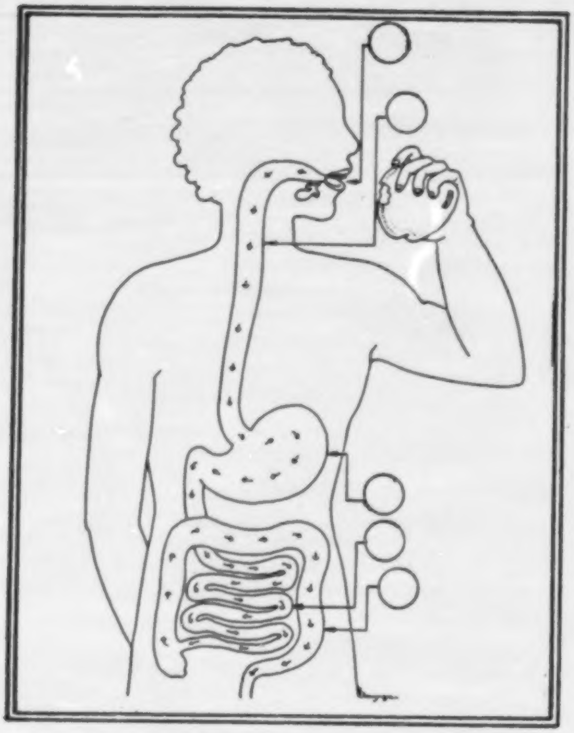
Swallowing moves food from the mouth and esophagus to the stomach.

Foods are prepared for absorption in the stomach and small intestine.

Absorption is the process by which some of the liquified food is taken into the blood and lymph through the wall of the small intestine.

Excretion is the process which eliminates the waste products of digestion from the large intestines.

Adapted from Take Joy; American Cancer Society, 1973.



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Foods are prepared for absorption in the ____________________ and ____________________.

Absorption is the process by which some of the liquified food is taken into the ________________ and ______________ through the wall of the small intestine.

Excretion is the process which eliminates the waste products of digestion from the large intestines.

Adapted from Take Joy; American Cancer Society, 1973.

WHAT BODY TYPE ARE YOU?

You get your basic body type from your parents. How you eat and exercise will make a difference in what shape your body is in.

PERHAPS YOU'RE AN ENDOMORPH...

endomorph

The endomorph has a short, broad skeleton. The endomorph may have a large amount of fat, especially in the abdominal area. If you are an endomorph, you may have trouble staying slim.

MAYBE YOU'RE A MESOMORPH...

mesomorph

The mesomorph is usually of moderate height. Mesomorphs have an athletic build with a well-developed chest and small hips and waist.

...OR ARE YOU AN ECTOMORPH?

ectomorph

The ectomorph has a long and slender skeleton. Ectomorphs are usually lean and have a small chest. If you are an ectomorph, it is unlikely that you will ever be overweight.

I am basically a ____________ type. Who else in my family is built like me? ______________________________

Most of us are not just endomorphs or mesomorphs or ectomorphs, but some combination of these three types. Knowing your general body type should help you set realistic goals for the figure or shape that's possible for you.

BODY PROFILE

Name ____________________ Age __________

This year you will learn more about your body and how to keep it healthy and fit. RECORD your measurements and scores as you complete each test.

What body type are you? Check 1 box.

Are you a combination of two types?

Check two boxes.

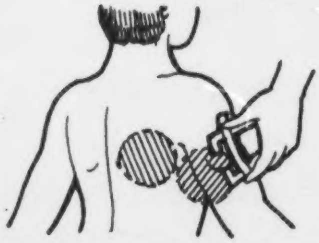
(Class 6)

ECTOMORPH ☐

MESOMORPH ☐

ENDOMORPH ☐

BODY MEASUREMENTS (Class 6)	TEST 1	TEST 2	TEST 3
Height	______	______	______
Weight	______	______	______



SKINFOLD TEST (Class 6)	TEST 1	TEST 2	TEST 3
Triceps	______	______	______
Subscapular	______	______	______
Percent Body Fat	______	______	______

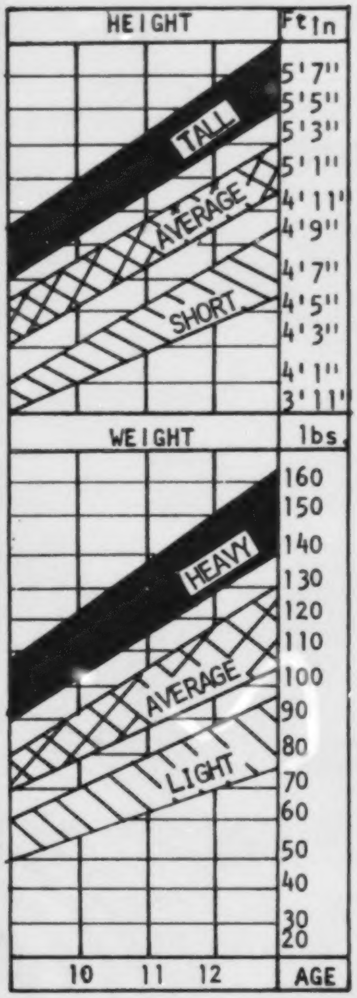
PULSE RATE (Class 12)	TEST 1	TEST 2	TEST 3
Resting Pulse	______	______	______
Pulse after Exercise	______	______	______

PHYSICAL FITNESS TEST (Class 12)	TEST 1	TEST 2	TEST 3
Strength	______	______	______
Flexibility	______	______	______
Endurance	______	______	______

KNOW YOUR BODY

HEIGHT & WEIGHT

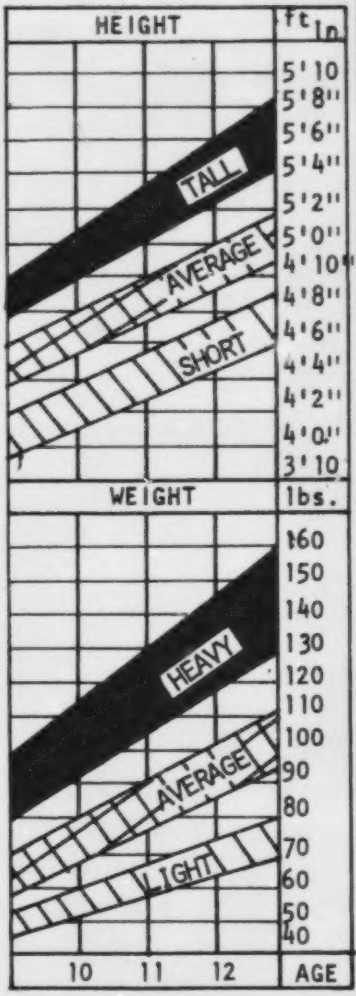
GIRLS



The shaded areas show the range of actual heights and weights for most adolescents in the United States.

1. Find your age along the bottom of the chart. Draw a vertical line up from your age to the top of the chart. What is the range of heights for most persons your age?
2. Find your height on the top of the chart and draw a horizontal line. Mark an X where your height line crosses your age line. Are you tall, average or short compared with others your own age?
3. Find your weight on the bottom of the chart and draw a horizontal line. The weight range for most tall adolescents is shown by the ■ shaded area; for most average adolescents by the ▩ shaded area; for most short adolescents by the ▧ shaded area.
What is the range of weights for most persons your own age?
Does your weight fall in this range? If not, what are some reasons why?
If you are concerned about your weight, a health professional can help you decide if you need to gain or lose weight.

BOYS



MY HEIGHT IS: TALL AVERAGE SHORT

MOST ADOLESCENTS MY AGE AND HEIGHT WEIGH ____ TO ____ POUNDS.

TRICEPS SKINFOLD

How does your tricep skinfold measure up? Use this chart to find out. My tricep measurement was _____ mm.

1. Find your AGE in the left column.
2. Look directly opposite your age in the column under your sex. What number is in the column? ________mm.

If your skinfold measurement is *less* than the number on the chart for your age and sex, the amount of fat in your body is NORMAL.

If your skinfold measurement is *greater* than that number, you have an abnormally large amount of fat in your body. How can you make it smaller?

Answer: Increase your energy output - activity and/or decrease the calories in your diet.

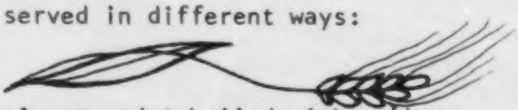
SKINFOLD CHART (MM)

AGE	MALE	FEMALE
9	15	18
10	16	20
11	17	21
12	18	22
13	18	23
14	17	23

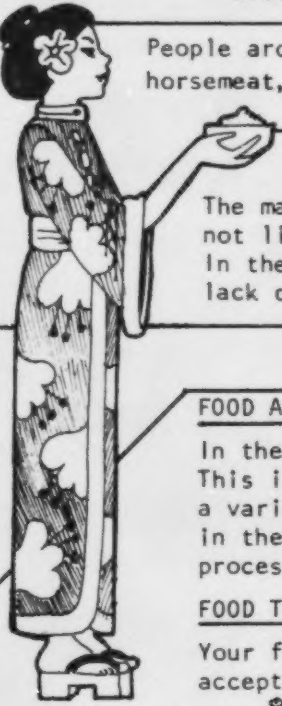
FOODWAYS

Every culture has its own unique food traditions, or FOODWAYS. Which foods are available, how they are prepared, and how they are served are all part of a culture's FOODWAYS.

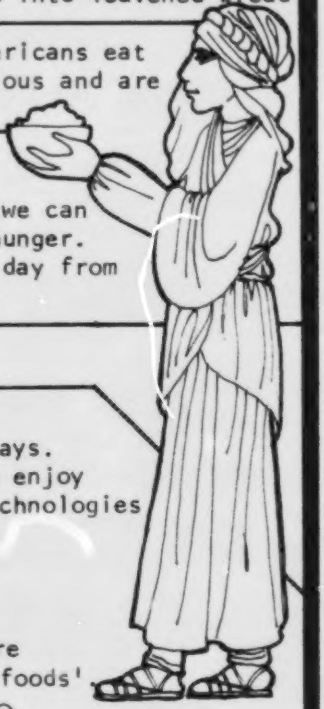
For example: One basic food can be prepared and served in different ways:



CULTURE	NAME OF DISH	HOW PREPARED
Russia	Kasha	Wheat is coarsely ground & boiled with cabbage
Italy	Pasta	Wheat is ground into flour, made into noodles
Mexico	Tortilla	Wheat is ground into flour & made into flat breads
U.S.A.	Bread	Wheat is ground into flour & made into leavened bread



People around the world eat many different foods. Few Americans eat horsemeat, dogmeat or insects, yet these foods are nutritious and are eaten in other countries.



WHY DO WE EAT FOOD?

The main reason for eating is survival. Without food we can not live. In the United States, few of us know real hunger. In the rest of the world some 12,000 people die each day from lack of food.

HOW ARE YOUR FOODWAYS FORMED?

FOOD AVAILABILITY

In the past, local crops determined a culture's foodways. This is still true in some cultures. In the U.S.A. we enjoy a variety of food as never before, due to new food technologies in the areas of farming, shipping, refrigerating and processing of food.

FOOD TRADITIONS

Your family and your culture determine which foods are acceptable to eat. These might be called 'traditional foods'

LIFESTYLE

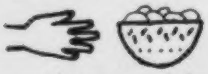
In our country both our mothers and fathers often work away from home. This means that there is less time for preparing foods. It can also mean that you have more money to buy processed foods that are quick and easy to use.

A lot of energy is needed to produce processed foods. Highly processed food is energy-expensive. Unprocessed food is usually energy-cheap.

FOOD ADVERTISING

Our foodways are influenced by advertising. Advertising calls our attention to a product so that we may be more likely to buy it.

HABITS



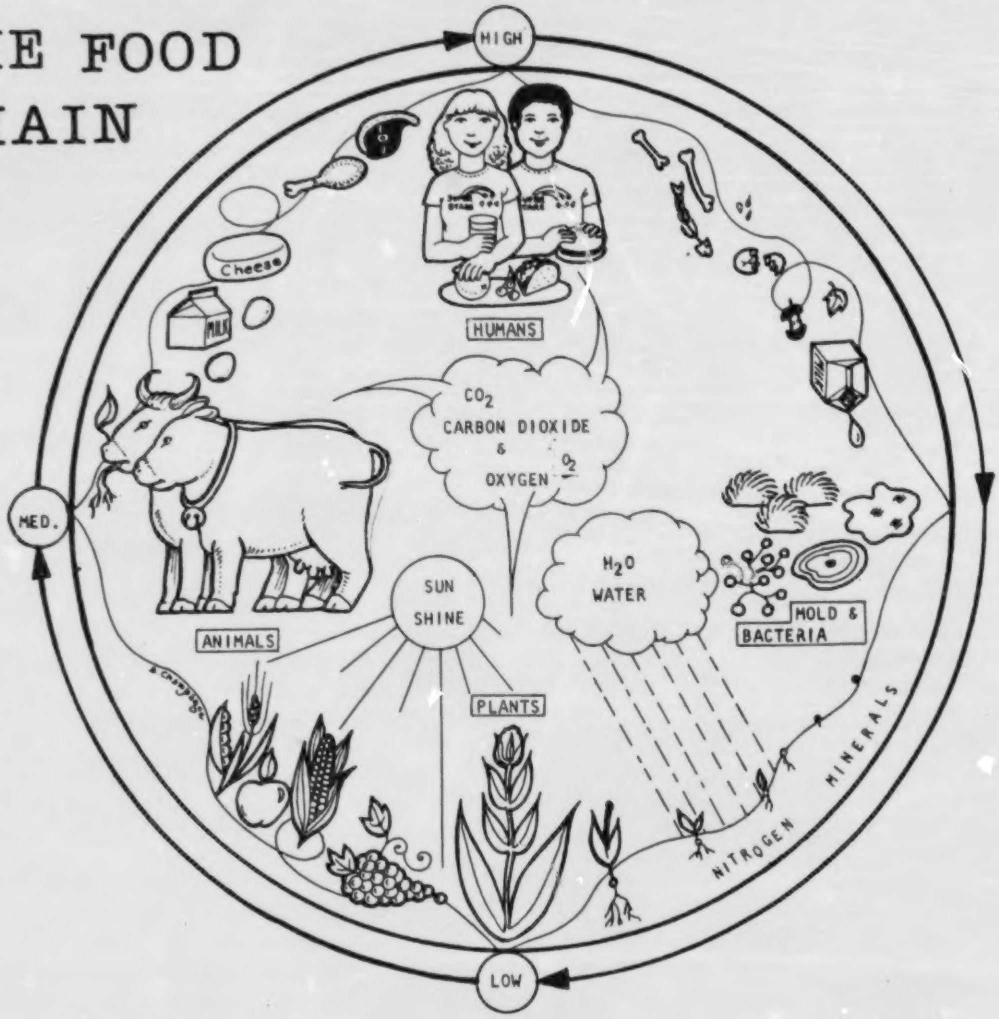
What, when, where and how you eat form your food habits. Your food habits are learned. There are many reasons why we learn to eat the way we do. Some reasons are listed below. Can you think of other reasons?

Check the box in front of your reasons for choosing the food you eat. Your food habits make you unique. Did your friends check the same reasons?

SOME REASONS FOR FOOD CHOICES

☐ I need food to live
☐ Food grows in my garden
☐ My family always eats this food
☐ It is easy to prepare
☐ I liked the T.V. commercial

THE FOOD CHAIN



Foods that take little *energy* to produce are low on the Food Chain.
Foods that take a lot of *energy* to make are high on the Food Chain.

Because plants do not need much energy to grow, they are LOW on the Food Chain. Plants use energy from the sun combined with carbon dioxide from the air and water, and nitrogen from the earth. Plant life provides food for insects, birds, larger animals and man.

Higher up the Food Chain you will find animals of all sizes and shapes. Many animals eat plants for their food. They are called herbivores. Some animals prefer to eat other animals. They are called carnivores.

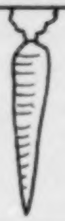
Man is by far the largest consumer of energy and is at the top of the Food Chain. Humans depend on plant and animal life for energy. Plant life gives us grain for breads and cereals and also provides the fruit and vegetables we need to be healthy. From animals we get meat and dairy products for our diet.

Plant and animal wastes decay, their nutrients are recycled back into the earth. The Food Chain can then continue on its never-ending cycle.

LINK THE FOODS

(ON THE FOOD CHAIN)

DIRECTIONS: List as many nutrients as you can that are found in the following foods. Some of the foods have a clue already listed.

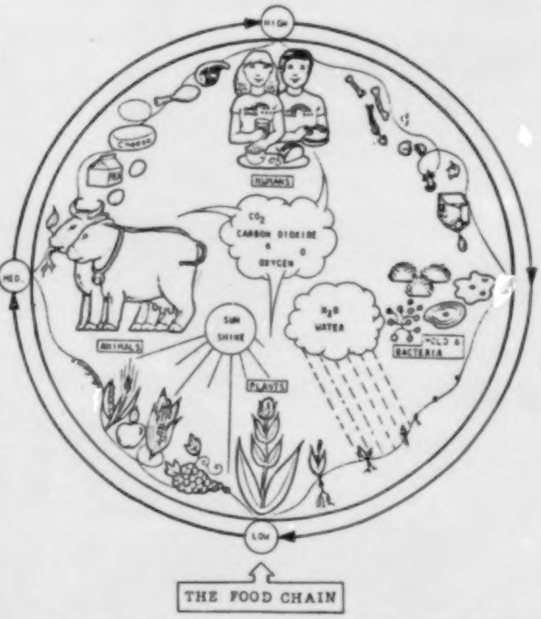
MILK	 CARROT 1. *Vitamins*	EGGS
PINTO BEANS (MEXICAN)	CHICKEN	FISH 1. *Protein*
APPLE 1. *Water*	CORN	ORANGE

Now put each food that is part of the FOOD CHAIN in its approximate place.

HIGH
- fish
- chicken

MEDIUM
- eggs
- milk

LOW
- pinto beans
- corn
- apple
- orange
- carrot



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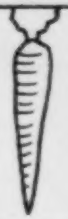
MILK	 CARROT 1. *Vitamins*	EGGS
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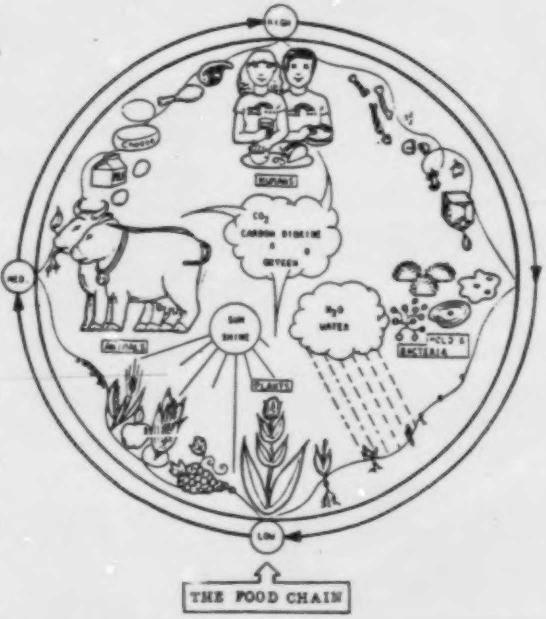
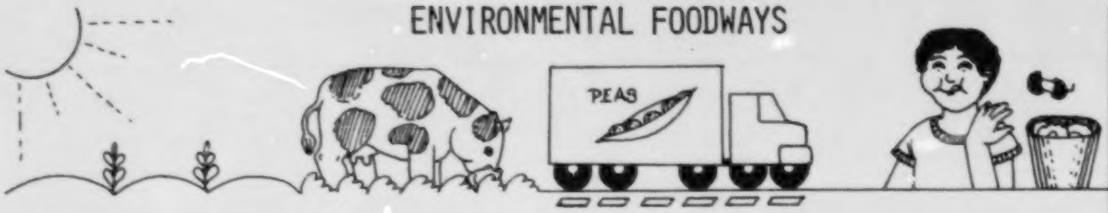
HIGH

MEDIUM

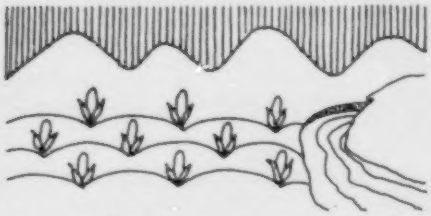
LOW



ENVIRONMENTAL FOODWAYS

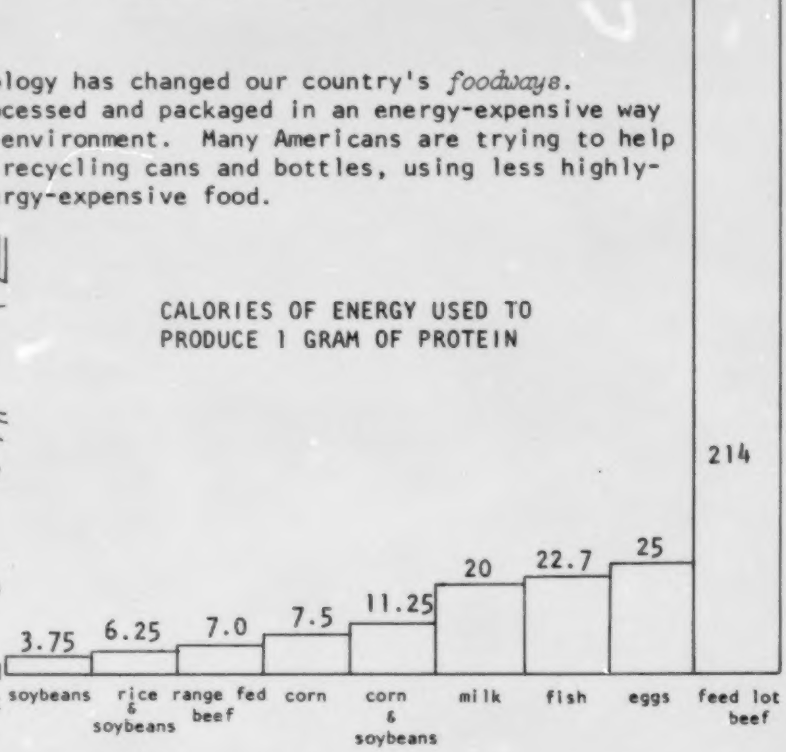


In recent years, food technology has changed our country's *foodways*. America's food is grown, processed and packaged in an energy-expensive way that can be harmful for our environment. Many Americans are trying to help clean up the environment by recycling cans and bottles, using less highly-processed food, and less energy-expensive food.



American agriculture is very productive and gives us a wide variety of food to enjoy. But pesticides, fertilizers and large amounts of water used to grow our food create environmental problems. On the other hand crops would be less abundant without them.

CALORIES OF ENERGY USED TO PRODUCE 1 GRAM OF PROTEIN

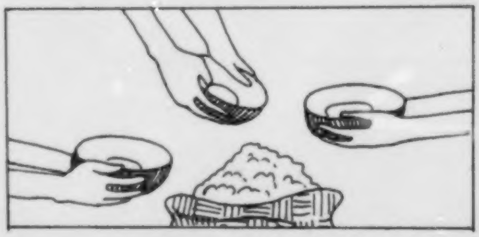


How do you think the use of pesticides, fertilizers and large amounts of water to grow crops affects our environment?

Do you think highly-processed and energy-expensive foods can upset the environmental balance?

Why does recycling cans, bottles and paper help our environment?

Many people in the world don't have enough to eat, and the world's population is increasing. We will need new ideas to produce food in the future. We will also have to find solutions to our energy and environmental problems, so we all can live in a cleaner, healthier world.



FOOD LABELS

To help in choosing nutritious, economical and wholesome foods, use the information provided on FOOD LABELS.

The ingredients on a food label are listed in order by weight. The first ingredient is the major ingredient.

Examine this label from a can of tomato soup and answer the questions that follow:

TOMATO SOUP

INGREDIENTS: Tomatoes, water, tomato paste, wheat flour, sugar, salt, partially hydrogenated vegetable oils, natural flavoring, ascorbic acid and citric acid.

SERVING SIZE: 5 oz. condensed (10 oz. prepared)

SERVINGS PER CONTAINER: 2

NT. WT. 12 oz. (360 grams)

	Condensed	*Prepared with Milk*
Calories	110	210
Protein (grams)	2	7
Carbohydrate (grams)	20	27
Fat (grams)	2	7

PRICE: 24¢

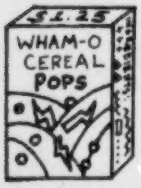
PERCENT OF U.S. R.D.A.

	Condensed	*With Milk*
Protein	2	10
Vitamin A	10	10
Vitamin C	50	50
Thiamin	2	4
Riboflavin	—	10
Niacin	4	4
Calcium	—	15
Iron	2	2

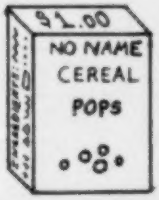
1. In this tomato soup what is the major ingredient? Tomatoes
2. This soup offers 50% of the Recommended Daily Allowance for which nutrient? Vitamin C
3. Is this soup a good source of iron? yes ○ no ☑ why? ______
4. What are Thiamin, Riboflavin and Niacin? B vitamins
5. How many servings are in 1 can? 2 How many calories are in 1 serving? 110/210
6. What is the cost per serving? 12¢

BRAND COMPARISON

Compare the price of a **highly** advertised food with an un-advertised store brand of the same size (or weight).



ADVERTISED PRODUCT	UN-ADVERTISED STORE BRAND
Size ______	Size ______
Cost ______	Cost ______
Cost per serving ______	Cost per serving ______



If there is a cost difference between the two brands, What do you think the reason is?

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4. What are Thiamin, Riboflavin and Niacin? ____________
5. How many servings are in 1 can? _____ How many calories are in 1 serving? _____
6. What is the cost per serving? ____________

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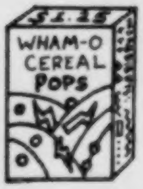


ADVERTISED PRODUCT

Size ____________

Cost ____________

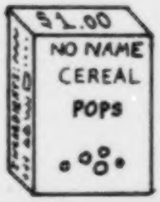
Cost per serving ______

UN-ADVERTISED STORE BRAND

Size ____________

Cost ____________

Cost per serving ______



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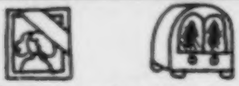
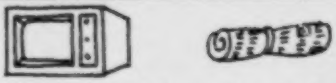


FOOD ADVERTISING



The purpose of food advertising is to persuade people to buy something. Companies spend enormous amounts of money just to advertise their products. In one year, Coca-Cola spent 91 million dollars ($91,000,000.00) on advertising alone!

It has been found that the poorer a food is nutritionally, the more it is advertised. This is because there is no one major company that profits from the sales of basic, nutritious foods like fruits and vegetables. Individual farmers cannot afford the high cost of television commercials and magazine advertisements.

There are many different ways commercials try to persuade us:

TESTIMONIAL: A well-known person or character tells us to buy the product.

example: Tony the Tiger for Sugar Frosted Flakes

ONE-SIDED STORY: Distorts facts to favor the product.

example: Tang has as much vitamin C as an orange.
fact: Tang also has sugar, artificial color and none of the minerals found in an orange.

CATCHY PHRASE: Broad, nonspecific sentences that sound good.

example: America is Turning 7-UP!

ADVERTISING DETECTIVE

Investigate two television or magazine advertisements. Write down a description of the ad, and some of the important phrases used. Decide whether your ads used any of the methods described above or whether they stuck to basic nutritional facts.

ADVERTISEMENT #1 (PRODUCT): ______________________ Advertising Method Used:

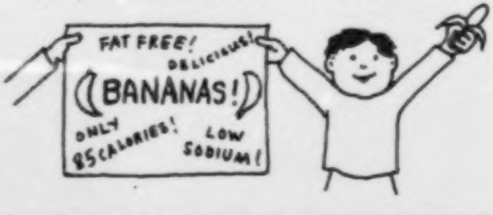
☐ ONE-SIDED STORY
☐ TESTIMONIAL
☐ CATCHY PHRASE
☐ NUTRITIONAL FACT

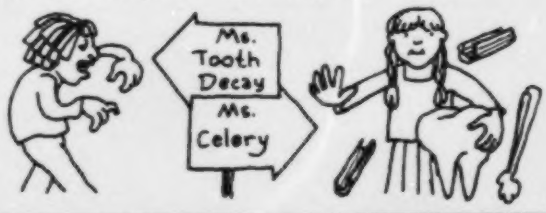
ADVERTISEMENT #2 (PRODUCT): ______________________

☐ ONE-SIDED STORY
☐ TESTIMONIAL
☐ CATCHY PHRASE
☐ NUTRITIONAL FACT

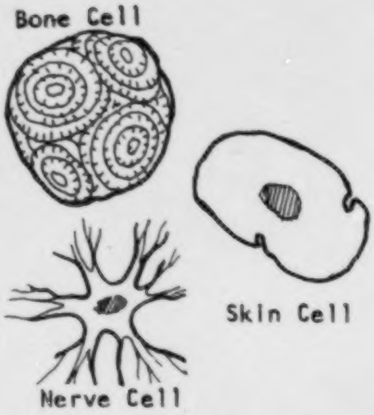
CREATE YOUR OWN AD

Divide into small groups. Choose a vegetable or fruit snack. Make up an advertisement using sound, nutritional facts. You can invent songs, funny characters or cartoons for your advertisement. Act out your ad for the rest of the class.


FAT FREE!
DELICIOUS!
BANANAS!
ONLY 85 CALORIES!
LOW SODIUM!



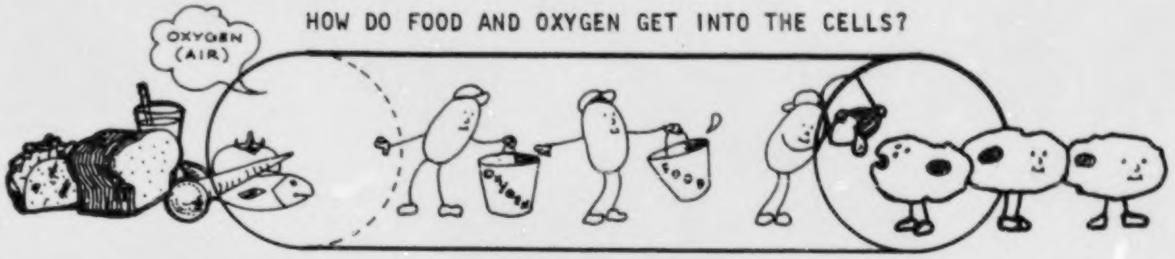
FUELING YOUR CELLS



Your body is made of millions and millions of tiny cells. There are many different kinds of cells. Each cell has a special job.

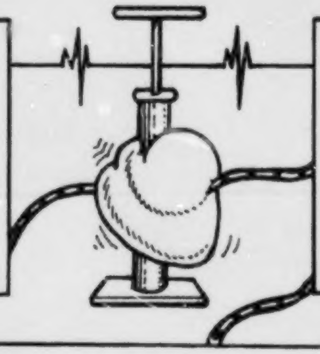
All cells need food and oxygen to do their work. The food you eat feeds your cells. Oxygen for your cells comes from the air you breath.

HOW DO FOOD AND OXYGEN GET INTO THE CELLS?



Your blood and lymph brings digested food to your cells. Your blood also carries oxygen to your cells.

Muscles are made of cells. Your heart is a muscle that works all the time. you can find out how big it is by putting your two fists together. Your heart lies in the middle of your chest, a little to the left.



Your heart keeps blood flowing. Your heart is really a pump. It pumps the blood through the blood vessels. Each time your heart pumps, it makes a sound. This sound is called your heartbeat.

Can you feel your heart beating now? Probably you can't if you are sitting still. If you run or jump up and down, you will soon notice how hard and fast your heart can beat.

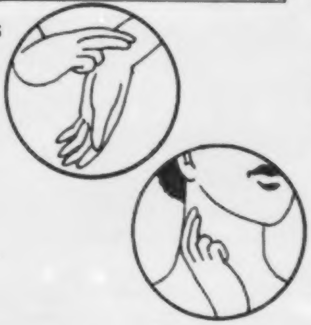
PULSE

HOW FAST DOES THE HEART BEAT TO PUMP BLOOD?

Your heart beats about 90 to 120 times a minute. In grown people, it beats about 70 to 90 times a minute. usually, small hearts beat faster than larger ones. An elephant's heart beats only 25 times a minute, but a mouse's heart beats 700 times a minute.

YOU CAN COUNT YOUR HEARTBEATS

TAKING YOUR PULSE



1. Place the first two fingers of your right hand on the inner side of your left wrist or on your neck, a little below your earlobe.
You can feel the artery in your wrist or neck give a jump every time your heart beats. The pressure you feel is your pulse.

2. Count number of beats for 30 seconds.

3. Multiply this number by 2 to get your pulse rate for one minute.

4. Record your pulse in the blank.

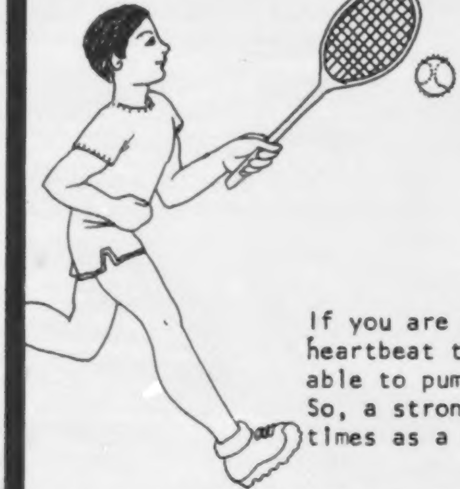
MY PULSE RATE______________

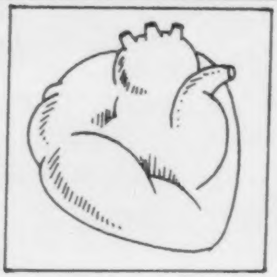
EXERCISE AND YOUR PULSE

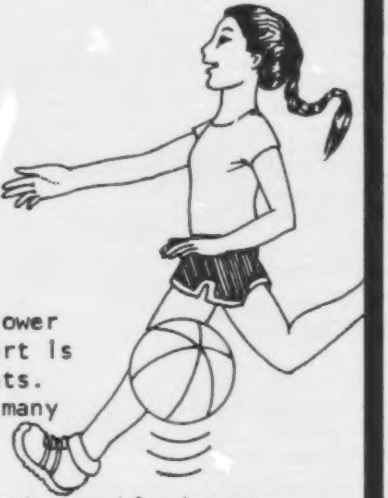
Exercise requires energy. When you exercise your heart must work harder to supply the needed fuel to your body cells. When your heart works harder it beats faster and your pulse rate increases.
After exercising, measure your pulse rate again.

MY PULSE RATE AFTER EXERCISE________________

FITNESS AND PULSE RATE







If you are physically fit, you may have a slower heartbeat than an unfit person. A strong heart is able to pump out more blood each time it beats. So, a strong heart does not need to pump as many times as a weak heart!

Now you have learned some important things about your heart and your bloodstream. It took scientists many years to find out what you know. They are still studying the heart and making new discoveries about it all the time.

FITNESS IS??????????????

What do you think fitness is? (Write your answer here):

How does what you wrote compare with this definition?:

Fitness is the body's ability to function at its best at all times. Your fitness is the result of your diet, physical activity, rest and relaxation.

PHYSICAL FITNESS IS MEASURED BY TESTS OF:

MUSCLE STRENGTH AND ENDURANCE

Muscular strength: the ability of muscles to exert a force against a resistance or an object.

Muscular Endurance: The ability of muscles to sustain a strenuous activity for a period of time.

FLEXIBILITY

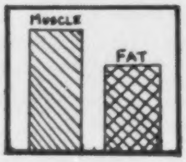
Flexibility: The ability to stretch.

CARDIO-VASCULAR ENDURANCE

Cardio-vascular Endurance: The ability of the body (heart, lungs, circulatory system) to maintain strenuous activity and to recover quickly when activity is over.

BODY COMPOSITION

Body Composition: The amount of Fat in comparison to the amount of muscle in the body.



BENEFITS OF FITNESS

	IN SHAPE	*OUT OF SHAPE*
YOU LOOK: →	Healthy	Pale & Unhealthy
YOU FEEL: →	Calm	Tired & Anxious
YOU HAVE: →	Fewer Illnesses	More Illnesses
YOU SLEEP: →	Better	Worse
YOU ARE: →	Slim & More Active	Probably Overweight, Less Active
YOUR BODY HAS: →	Fewer Heart Attacks	More Heart Attacks
YOU CAN: →	Concentrate Better	Lose Concentration

CLASS FITNESS SCORES		PULL-UP/FLEXED ARM HANG (TABLES 1 & 2)								
		TRIAL 1			TRIAL 2			TRIAL 3		
NAME:	AGE:	SCORE	PERCENTILE	FITNESS RANK	SCORE	PERCENTILE	FITNESS RANK	SCORE	PERCENTILE	FITNESS RANK

SIT-UPS (TABLES 3 & 4)									9 MINUTE / 1 MILE RUN (TABLES 5 & 6)								
TRIAL 1			TRIAL 2			TRIAL 3			TRIAL 1			TRIAL 2			TRIAL 3		
SCORE	PERCENTILE	FITNESS RANK	SCORE	PERCENTILE	FITNESS RANK	SCORE	PERCENTILE	FITNESS RANK	SCORE	PERCENTILE	FITNESS RANK	SCORE	PERCENTILE	FITNESS RANK	SCORE	PERCENTILE	FITNESS RANK

YOUR FITNESS

What test(s) did you do to measure cardiovascular endurance?

What tests did you do to measure muscle strength?

What tests did you do to measure muscular endurance?

What tests did you do to measure flexibility?

What tests did you do to measure body composition?

How fit are you? Circle the number.

1	2	3	4	5	6	7	8	9	10
NOT FIT								VERY FIT	

What can you do to increase your fitness?

WHAT WILL EXERCISE DO FOR YOU?

Regular exercise produces changes in your heart, your muscles and your appetite.

REGULAR PHYSICAL ACTIVITY;

1. Makes your heart stronger and able to pump blood more efficiently.Your body can do MORE with LESS work.
2. Makes your lungs stronger so you can breath more easily.
3. Improves your muscle tone.
4. Can help you control your weight by burning energy. Moderate exercise often improves the body's appetite control center: Your appetite may actually decrease rather than increase.

If you exercised regularly, would you expect changes in how you feel? ____yes ____no. WHY?

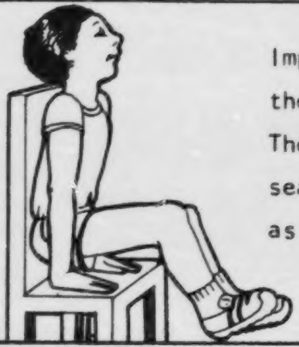
EXERCISE FOR FITNESS

① F-L-E-X-I-B-I-L-I-T-Y

Improve flexibility by doing stretching exercises.

Toe-touching to stretch the hamstrings: With your heels together and knees straight, try to touch the ground or floor with your fingers. Do not bounce. Hold the position to the count of ten. Release, then repeat at least five times.

② STRENGTH



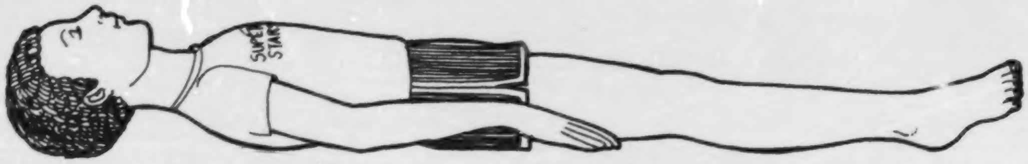
Improve your strength by exerting force against an object. In the Body Lift you are exerting force against the chair.

The Body Lift: Sitting in a strong, firm chair, place hands on seat (or chair arms), lift your body up a few inches and hold as long as possible. This exercise firms up the arms and stomach.

③ RELAXATION

Exercise to Relax.......

Deep Breathing: Inhale slowly to the count of five, hold to the count of four, exhale to the count of five. Repeat this exercise four times.



④ ENDURANCE

Exercise to increase cardiovascular endurance....

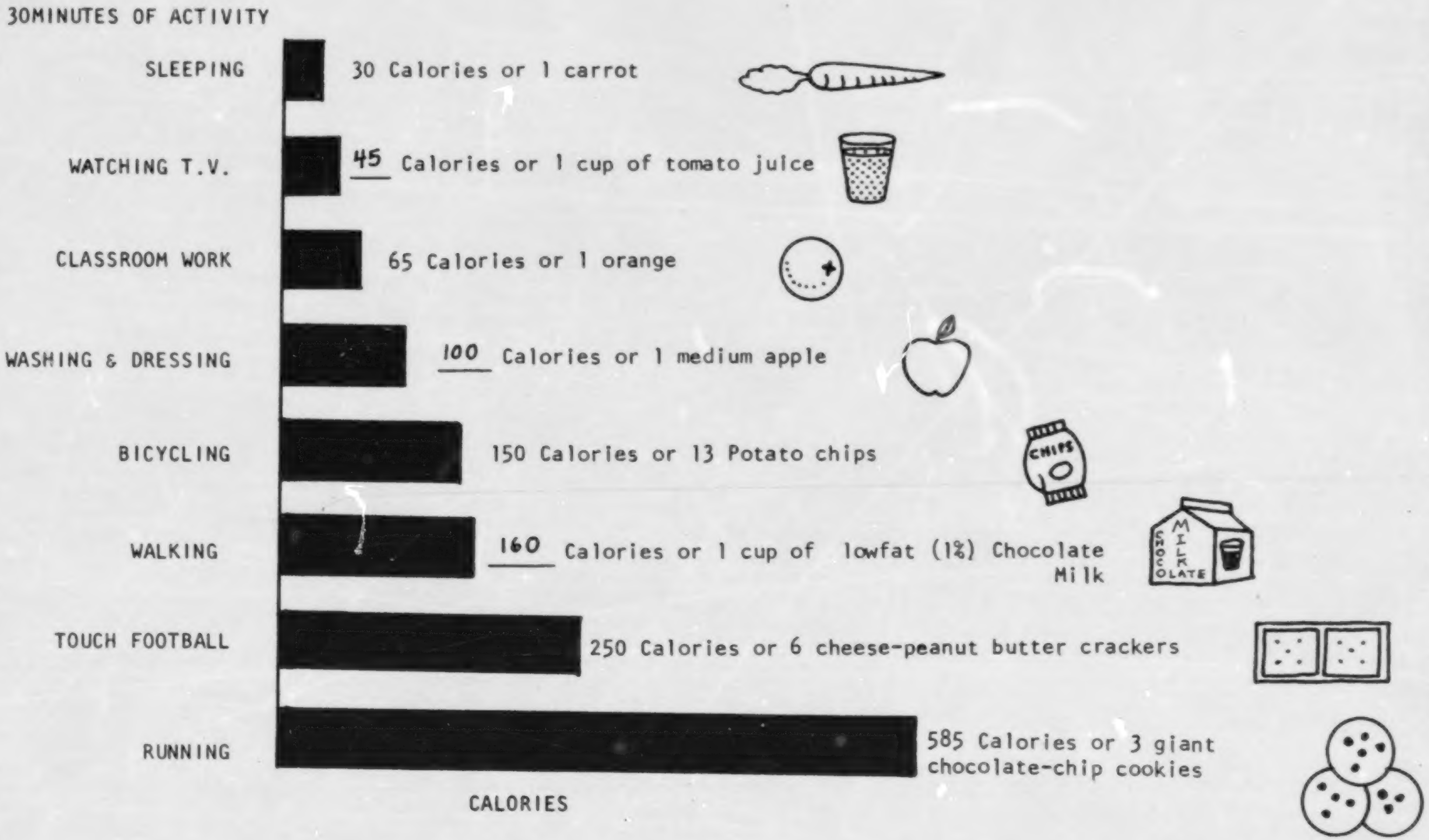
Walking, Running, Bicycling: all are activities that can improve the strength of your heart and blood vessels.

Do one of these activities for thirty minutes three times a week.

Name some activity that you are doing now to improve your cardiovascular fitness.

EXERCISE AND FOOD ENERGY

In addition to the calories you need just to keep your body working, you need energy for all physical activities You get your ENERGY or CALORIES from the foood you eat. Look at this chart to see how the energy in the snacks you eat compares to the energy you burn up when you are active. Use your booklet "Nutritive Value of Foods" to fill in the missing calories for the foods below.



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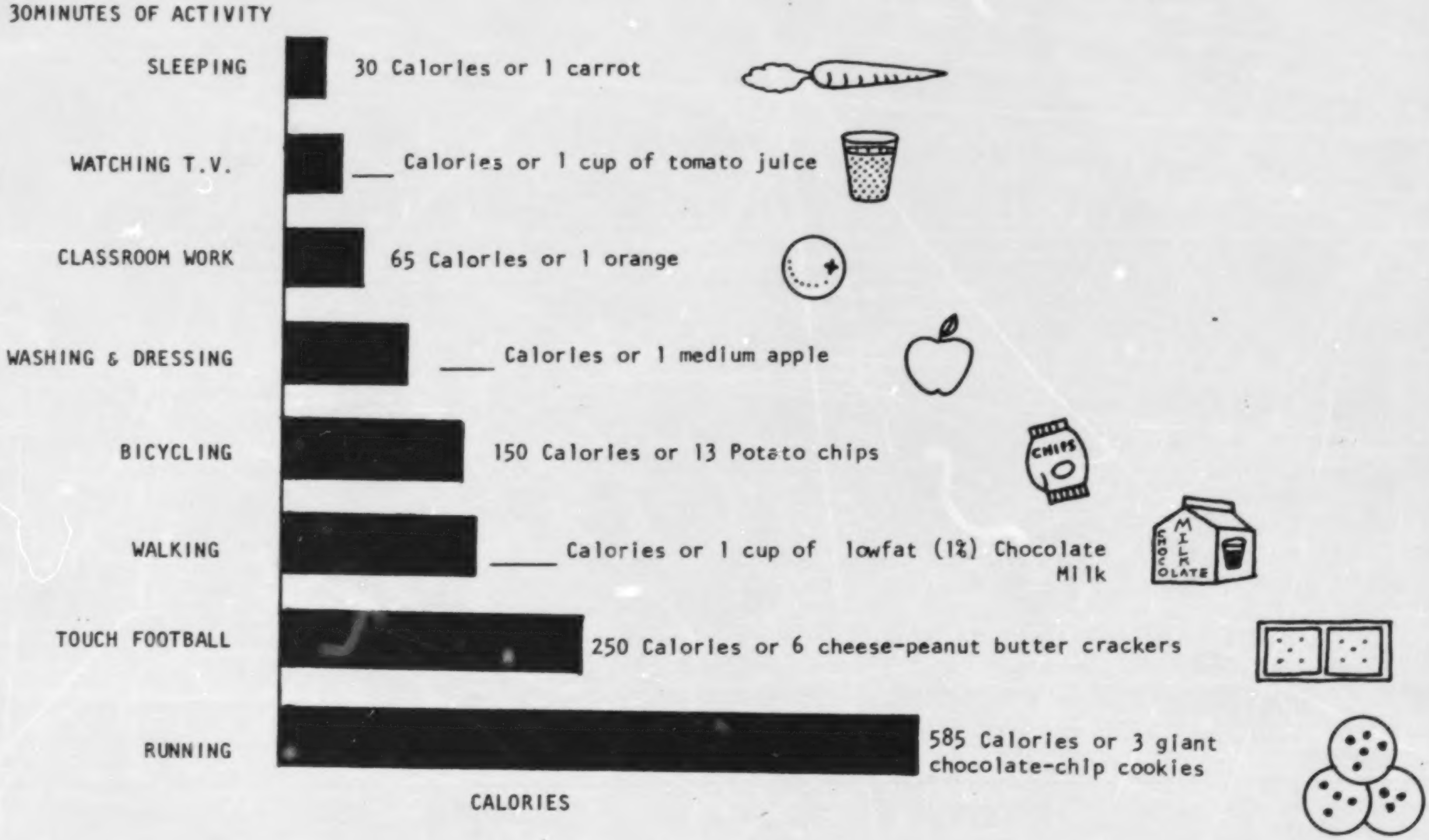
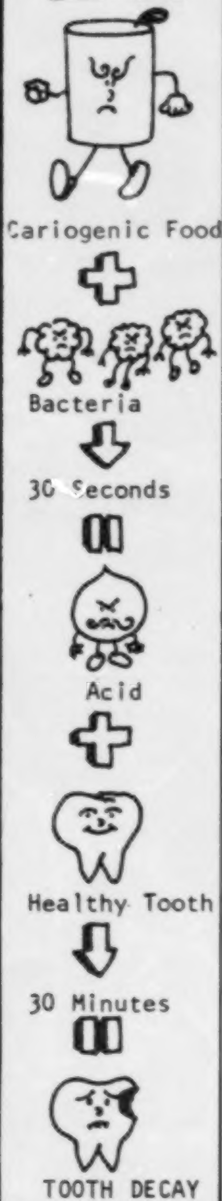


DETERGENT FOODS...CARIOGENIC FOODS-ITS YOUR CHOICE!

Sweet, sticky foods are a major cause of dental cavities. Between-meal sweets (even cough drops) can do more harm than the same sweets eaten with meals. When sweets are eaten with meals, the other food helps 'wash away' the sugar from your teeth. For cavity prevention, the total amount of sugar you eat is not as important as 1. how many times a day you eat sugary food, 2. how long you eat it, 3. whether the sugary food is liquid or solid, and 4. whether or not you clean your teeth after eating sugary food.

THE ROUTE TO DECAY



DETERGENT FOODS

Foods that are crisp, crunchy -- *self-cleaners*

carrots
apples
celery
tomatoes

and any food that leaves your mouth slick and shiny is good for your teeth.

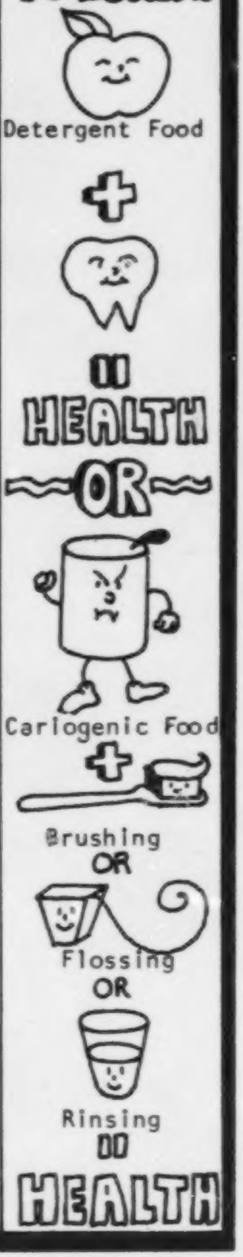
CARIOGENIC FOODS

Foods that are sticky gooey sweets. Acid foods with sugar -- *Enamel assassins*

candy
soda pop
fruit juice
pastry
dried fruit
gum

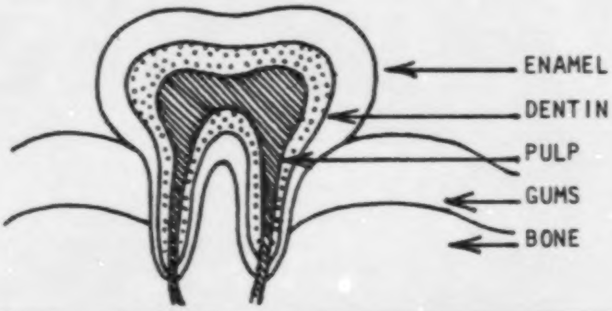
and any food that leaves your mouth sticky and mossy is bad for your teeth.

THE HIGHWAY TO HEALTH



FOR GOOD DENTAL HEALTH

1. Eat less sugary, sweet or sticky food.
2. Brush or floss teeth or rinse mouth with water after meals or snacks -- especially after eating or drinking sweet or sticky foods.



SNACK FOOD CALORIES

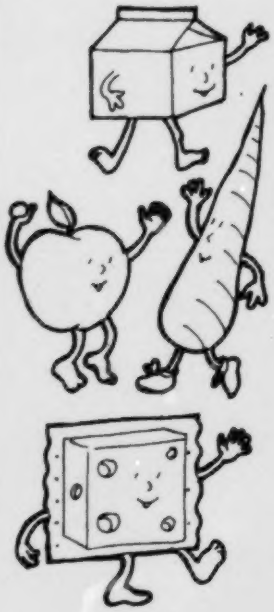
List snack foods next to their proper food group. Find the number of calories per serving. Put a star by snacks that are detergent foods.

	SNACK FOOD	CALORIES
FRUITS		
VEGETABLES		
GRAINS		
MEATS OR MEAT ALTERNATES		
DAIRY		
COMBOS		
SWEETS FATS ALCOHOL		

SNACKING - THE CHOICE IS YOURS

WHEN YOU ARE HUNGRY OR THIRSTY WHAT SNACKS DO YOU EAT?

______________ ______________ ______________



There are many foods and drinks to choose from. The trick to good snacking is to know what foods are nutritious and to have these foods handy when the munchies strike!

HOW CAN YOU TELL WHICH SNACK FOODS GIVE YOU THE MOST NUTRIENTS? Nutrient density is one way to rate the nutritional value of food. *High Nutrient Density* foods make good snack choices. *High Nutrient Density* foods are ones that have lots of nutrients, like vitamins and minerals, in comparison to the amount of calories they have. *SUPER SNACK* foods are not loaded with added sugar, fat or salt. When you eat a *SUPER SNACK* food you can say: "WOW! I'M GLAD I HAD A SUPER SNACK!"

Name some *SUPER SNACK* foods you like to snack on:

______________ ______________ ______________

Foods that do *not* make good snack choices are *Low Nutrient Density* foods. These foods contain lots of calories from simple carbohydrates (sugar) or fat, but have very few other nutrients. These foods are usually found in the SWEETS-FAT-ALCOHOL food group. These foods will make you say; "WOW! I COULD HAVE HAD A SUPER SNACK!"

Name some *Low Nutrient Density* foods:

______________ ______________ ______________

THINK BEFORE YOU REACH!

The next time you reach for a snack...think about its NUTRIENT DENSITY. How does the Nutrient Density of the snack you picked compare with the Nutrient Density of other snack foods you could eat?

SUPER SNACKS

. . . . . Quick and easy!

VEGETABLE FRUIT Group

- Apples, peaches, pears, grapes, etc.
- Raw vegetable sticks or pieces (radishes, celery, cauliflower, green onions, zucchini, green pepper, carrots, cucumbers—even parsnips!)
- Dried apricots, raisins, prunes.
- Canned fruits or fruit juices, kept chilled in the refrigerator.

- Ripe tomatoes—eat 'em right out of your hand!
- Mini-kebabs of bite-sized fruit chunks, strung on a toothpick.
- Banana chunks dipped in orange juice. Shake in a bag with chopped peanuts. Spear with toothpicks.

- Celery stuffed with cottage cheese, cheese spread, or peanut butter.
- Juice cubes you make by freezing fruit juice in an ice cube tray. Chill other fruit drinks with them.
- Chilled cranberry juice mixed with club soda.
- Grapefruit half, sprinkled with brown sugar and broiled.

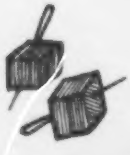
- Tomato half, sprinkled with breadcrumbs, Parmesan or grated Cheddar cheese, and broiled.
- Creative salads of lettuce, raw spinach and other fresh vegetables, fruits, meats, eggs, or seafood.

MEAT and Poultry Fish BEANS Group

- Nuts, sesame seeds, or toasted sunflower seeds.
- Sandwich spread of peanut butter combined with raisins or chopped dates.

- Peanut butter and honey spread on an English muffin, sprinkled with chopped walnuts, and heated under broiler.
- Grilled open-faced peanut butter and mashed banana sandwich.

- Tomatoes stuffed with egg salad.
- Melon wedges topped with thinly sliced ham.
- Sandwich of cheese, meat, tomato, onion, and lettuce.



- Antipasto of tuna, shrimp, anchovies, hard-cooked eggs, and assorted vegetables.
- Leftover poultry or meat—as is, or chopped into a sandwich spread.
- Bite-sized cubes of broiled beef, served on a toothpick.

BREAD CEREAL Group

- Raisin bread, toasted and spread with peanut butter.
- Sandwiches using a variety of breads—raisin, cracked-wheat, pumpernickel, rye, black.
- Date-nut roll or brown bread, spread with cream cheese.

- English muffins, served open-faced for sandwiches such as hot roast beef or turkey, chicken salad, sloppy joes.

- Individual pizzas. Top English muffin halves with cheese slices, tomato sauce, and oregano, and broil.
- Waffles topped with whipped topping and strawberries.

- Wheat or rye crackers, topped with herb-seasoned cottage cheese, cheese or meat spread, or peanut butter.
- Graham crackers and milk.

- Ready-to-eat cereals—right out of the box!
- Ice cream or pudding, sprinkled with crisp cereals or wheat germ.

MILK CHEESE Group

- Milkshakes with mashed fresh berries or bananas.
- Parfait of cottage cheese, yogurt, or ice milk combined with fruit, sprinkled with chopped nuts, wheat germ, or crisp cereal.

- Dips for vegetable sticks. For fewer calories, substitute cottage cheese or plain yogurt for sour cream and mayonnaise in preparing dips.
- Fruit-flavored yogurt.

- Cheese cubes, *au naturel*, or speared with pretzel sticks, or alternated with mandarin orange sections on a toothpick.
- Assorted cheeses with crackers or chilled fresh fruits.
- Custard or pudding.
- Ice milk sundae, topped with fresh, canned, or frozen fruits.

EATING ON THE RIGHT TRACK

TRY TO EAT LESS REFINED AND PROCESSED SUGARS

1. Check the ingredient label for sweeteners and sugars in products. *Sugar* is not the only word to look for on labels. Watch for such words as: *SUCROSE, GLUCOSE, DEXTROSE, FRUCTOSE, CORN SYRUPS, CORN SWEETENERS, NATURAL SWEETENERS* and *HONEY*. Remember that on the label ingredients used in the largest amounts are listed first.
2. Substitute fruit juices or water for soft drinks, punches, fruit drinks and ades which contain large amounts of sugar.
3. Go easy on candy, pies, cakes, pastries and cookies.
4. Buy fruit canned in its own juice, other fruit juice or light syrup.
5. Buy unsweetened cereal, so *YOU* can control the amount of sugar added.
6. Experiment with reducing sugar in recipes. Be prepared for foods that may look and taste different.

SHAKE THE SALT HABIT

Taste food before you salt it. Try cutting down on the following:

1. Processed foods that have these words on the label: *SALT*, words with *SODIUM* in them like *SODIUM BENZOATE, SODIUM PROPIONATE* or *SODIUM SACCHARIN*.
2. Foods prepared in brine, like pickles, olives or sauerkraut.
3. Salty or smoked meats like bologna, corned or chipped beef, salt pork, frankfurters, ham, luncheon meats, and sausage.
4. Salty or smoked fish, like anchovies, caviar, salted and dried cod, herring, sardines and smoked salmon.
5. Highly salted snack foods like pretzels, potato chips, tortilla chips.

TRIM THE FAT

Include more of these foods in your diet:

1. Fruits (except avocado and olives), vegetables, breads, cereals, dry beans and peas.
2. Broiled, baked or boiled chicken, turkey, fish or shellfish. Leaner cuts of meat like beef, lamb, veal or pork.
3. Skim or lowfat milk and their products, like uncreamed cottage cheese.

Try to cut down on the following:

1. Regular ground beef, corned beef, spareribs, sausage, and other meats that have a lot of fat.
2. Fried foods.

EAT MORE COMPLEX CARBOHYDRATES AND NATURALLY OCCURING SUGARS

To increase complex carbohydrates in your diet, eat more whole grains, fresh and frozen fruits and vegetables, seeds and nuts.
Naturally occuring sugars are found in most fruits.

KEEP UP YOUR GOOD HEALTH BY KEEPING YOUR WEIGHT DOWN

If you have a weight problem, reduce the amount of calories you take in. You can begin this by watching how much you eat or how large your portions are. To burn off more calories,

EXERCISE!!!!

Nutrition Super Stars © 1979 NUTRITION SUPER STARS

EXERCISE ENERGY

Use this sheet to help you find out the amount of energy you use in one day.
DIRECTIONS: Multiply the time you spend doing different activities by the energy need for each activity.

ACTIVITIES	TIME YOU SPENT (Minutes)	ENERGY NEED PER MINUTE	ENERGY OUTPUT (Calories)
SLEEPING		x 1 =	
READING		x 2 =	
EATING		x 2 =	
WATCHING TELEVISION		x 2 =	
SCHOOLWORK/HOMEWORK		x 2 =	
HORSEBACK RIDING		x 2 =	
PRACTICING AN INSTRUMENT		x 3 =	
HOUSEHOLD CHORES		x 3 =	
WASHING & DRESSING		x 3 =	
WALKING		x 4 =	
ROLLER SKATING		x 5 =	
BICYCLING/FRISBEE		x 5 =	
SWIMMING		x 5 =	
BASEBALL		x 6 =	
VOLLEYBALL		x 7 =	
TOUCH FOOTBALL		x 8 =	
TAG		x 10 =	
DODGEBALL		x 10 =	
DANCING FAST		x 10 =	
RUNNING		x 20 =	
CLIMBING STAIRS OR HILLS		x 20 =	
TOTAL ENERGY OUTPUT (CALORIES) =			

In addition to the energy you use for activities, your body uses energy just to stay alive. The amount of energy needed by your body at complete rest for breathing, blood circulation, heartbeat and body temperature is called your BASAL METABOLIC RATE (BMR)

Use the following guideline to find your BMR:

1 x ☐ x 24 = ☐

1CALORIE x YOUR WEIGHT IN KG* x 24 HOURS/DAY = BMR (Calories)

*Weight in Kg = Weight in pounds ÷ 2.2

To find out the amount of energy you used in one day, add the calories you used for activities to the calories used for your BMR:

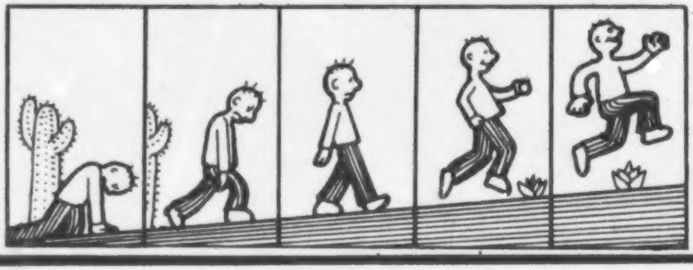
☐ + ☐ = ☐

CALORIES FOR ACTIVITIES + CALORIES FOR BMR = TOTAL CALORIES USED IN ONE DAY

YOUR RECOMMENDED DAILY ALLOWANCE FOR CALORIES:

♀ FEMALES 11-14 YEARS OLD..2200 CALORIES PER DAY

♂ MALES 11-14 YEARS OLD..2700 CALORIES PER DAY

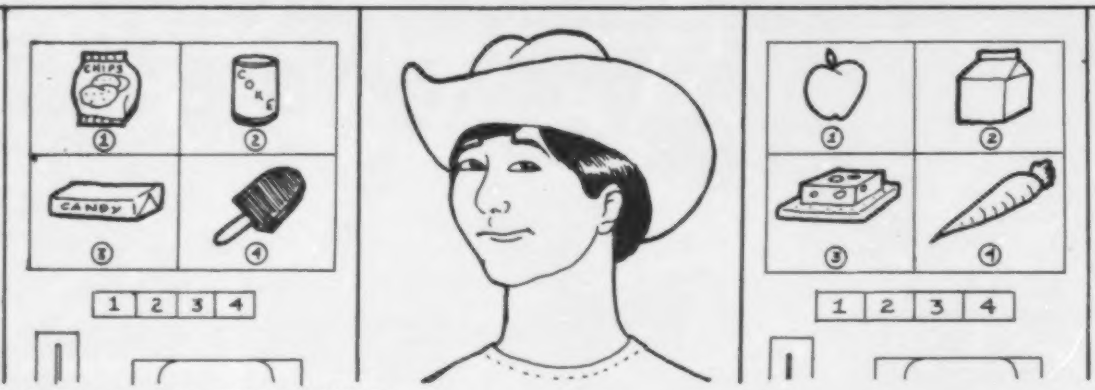


PLAN A SCHOOL LUNCH

With the help of food service people in your school, select foods that you would like to have for lunch. Choose from the food groups shown below. Use the food models to help you and your classmates plan a school lunch menu.

Basic Five Food Groups	YOUR FOOD CHOICES	Required Size of Serving
VEGETABLE FRUIT Group		3/4 cup of two or more vegetables or fruit or both.
BREAD CEREAL Group		8 servings per week. One serving is: one slice whole-grain or enriched bread; or a serving of other bread such as corn bread, biscuits, rolls, muffins, pasta, rice, made of whole-grain or enriched meal or flour.
MILK CHEESE Group		1/2 pint milk (8 oz.)
MEAT and Poultry Fish BEANS Group		2 ounces lean meat, poultry or fish; or 2 ounces cheese; or 2 eggs; or 1 cup cooked dried beans or peas or 4 tablespoons peanut butter.
FATS SWEETS ALCOHOL Group		None

BE A NUTRITION SUPER STAR - THE CHOICE IS YOURS

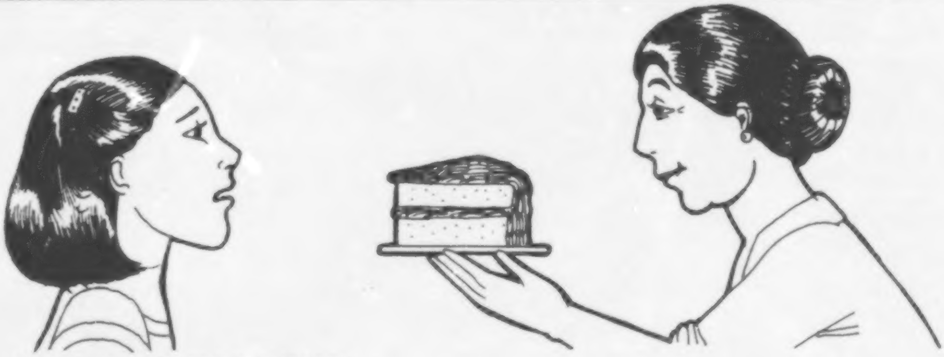


CASE STUDY I THE SNACK CHOICE

Jose wants to buy an after school snack from the vending machine. He is undecided about which vending machine to choose. What would you choose? Why did you make that choice? What do you know about the nutrient density of the foods in each vending machine?

CASE STUDY II THE WORKING FAMILY

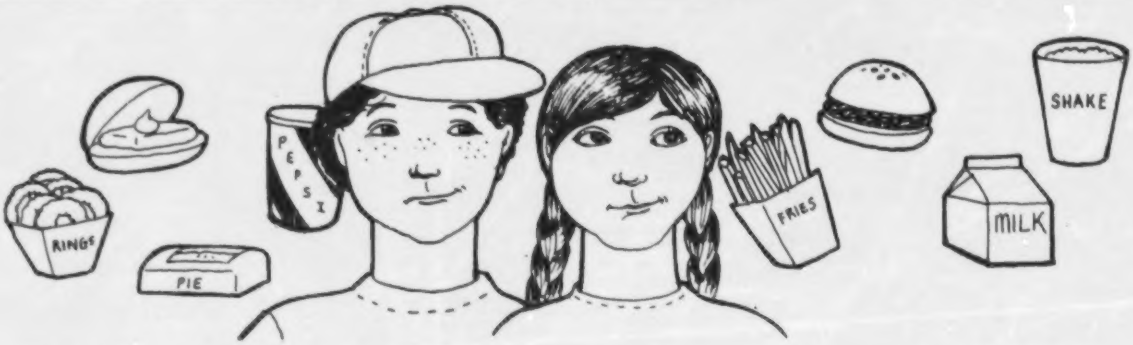
Both your parents work. You are never sure when they will be home because their work hours change. You often eat after your parents leave for work or before they get home. You and your younger sister like a snack after school. What would you choose for snacks? Are snacks good for you? What else would you eat the rest of the day?



CASE STUDY III THE DESSERT CHOICE

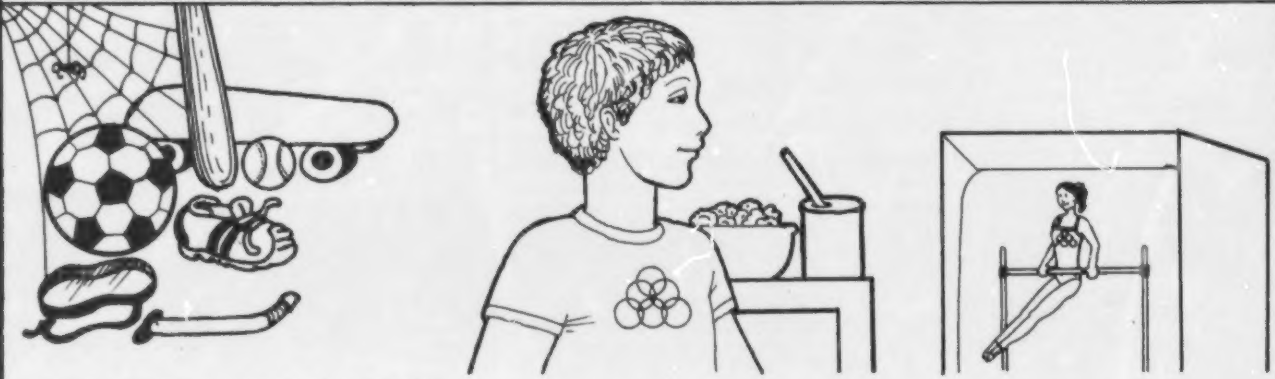
Rosa's aunt is offering her a big piece of cake for a snack. It is Rosa's favorite cake. Right now she feels she cannot afford to eat all those calories! How can Rosa turn down the piece of cake and not hurt her aunt's feelings? What would you do if you were Rosa?

BE A NUTRITION SUPER STAR - THE CHOICE IS YOURS



CASE STUDY IV FAST FOOD DILEMMA

After sports practice your friend's parents often take you to a fast food restaurant like McDonald's. You are concerned about controlling your weight. What foods would you order?



CASE STUDY V OLYMPIC DREAMS

Jefferson thinks that being on an Olympic team would be the greatest thing in the world. Look at the picture and decide what things Jefferson could do to be on an Olympic team.

CASE STUDY VI BREAKFAST ON THE RUN

You must catch the bus by 7:00 a.m. in order to get to school on time. You have little time for breakfast. What can you do to make sure you don't get the mid-morning doldrums?

AEROBIC SUPER STARS

Do you know what makes Superman and Wonder Woman faster than a speeding bullet or able to leap tall buildings in a single bound? They have *super cardiovascular endurance.* Remember that cardiovascular endurance is the ability of the body to keep going during stenuous activity and quickly get back to normal after the activity is over. Improving your cardiovascular endurance can improve the strength of your heart and improve the circulation of your blood. This allows more oxygen to be carried by iron, in your red blood cells, to the 75 trillion cells in your body.

Nutrients in food are broken down by digestion. These broken down nutrients are absorbed and carried to your cells by your blood and lymph systems. Oxygen from the air you breathe is also carried in your blood. Once oxygen and B vitamins are in your cells, they help convert the broken down carbohydrates, fat, and protein to energy. This energy fuels all the activities you do each day.

If your cells get enough oxygen for a particular activity, you can continue this activity for a long time without feeling tired. Exercising while breathing enough oxygen is called *aerobic* conditioning. *Anerobic* conditioning is exercising when you do not breathe enough oxygen. You become fatigued quicker and stop the activity sooner because your cells do not have the oxygen needed to produce energy. Like a car without gasoline, the cell cannot run without the fuel from nutrients and oxygen.

To improve your cardiovascular endurance by *aerobic* conditioning, you must push your heart rate to your training heart rate range for 30 minutes 3 times a week.

Maximum heart rate is the fastest your heart can beat and still pump blood to your body cells. You can figure out your maximum heart rate by subtracting your age from 220. WHAT IS YOUR MAXIMUM HEART RATE? 220 beats/min. - ________ = ________ beats/min.
(your age)

USE YOUR MAXIMUM HEART RATE TO FIGURE YOUR *TRAINING HEART RATE RANGE.*

________ x .75 = ________ This is the minimum for your training heart rate range.
(max. heart rate) (beats/min.)

________ x .80 = ________ This is the maximum for your training heart rate range.
(max. heart rate) (beats/min.)

When you exercise *aerobically* for cardiovascular endurance, your heart rate should be within your *training heart rate range*.

To find out if you are reaching your training heart rate range, exercise for 3 to 5 minutes. Try running in place, jogging, swimming, bicycling or walking. Take your pulse for 30 seconds. Multiply by 2. If your pulse rate is not within your training heart rate range, then exercise at a faster rate and take your pulse again.

To be a pace ahead of the race, keep your weight at its best. Exercise 5-6 times a week to be *aerobically* fit and burn more calories.

NUTRITION SUPER STARS FIND THE FACTS

There are many books, pamphlets, magazines and articles written on nutrition. TV and radio ads encourage us to buy many kinds of food products. Some are written or produced by people with impressive names and are used to SELL fad diets or products. Fad diets and products are often expensive and may even be harmful to your health if used over a long period of time.

All of this is confusing. How can you tell the difference between reliable and unreliable information? Here are some clues to help you. Match each statement below with the correct picture.

★ RELIABLE INFORMATION ★

Ⓑ 1. States fact backed by recent scientific research.

Ⓒ 2. Encourages a diet of nutritious foods and regular exercise for good health.

Ⓐ 3. Urges medical treatment for illness.

Ⓓ 4. Documents all claims.

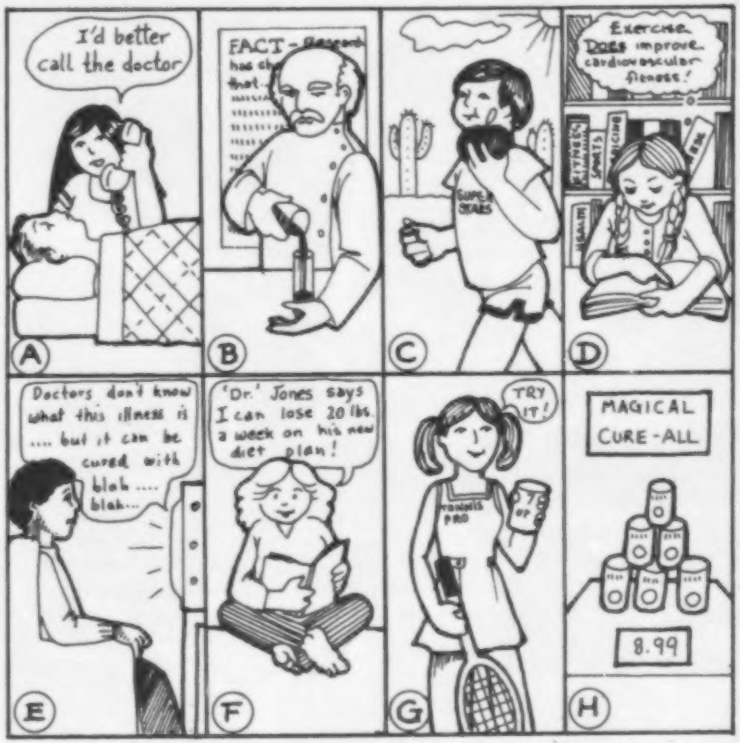
◇ UNRELIABLE INFORMATION ◇

Ⓖ 1. Uses statements backed by testimonials.

Ⓗ 2. States that certain foods or vitamins have magical healing powers.

Ⓔ 3. Claims that a majority of people suffer from something doctors cannot diagnose.

Ⓕ 4. Uses statements like "famous" or "well-known" without documentation.


I'd better call the doctor
Ⓐ
FACT - Research has ch... that...
Ⓑ
SUPER STARS
Ⓒ
Exercise Does improve cardiovascular fitness!
FITNESS
SPORTS
HEALTH
Ⓓ
Doctors don't know what this illness is .... but it can be cured with blah ..... blah...
Ⓔ
'Dr.' Jones says I can lose 20 lbs. a week on his new diet plan!
Ⓕ
TRY IT!
TENNIS PRO
Ⓖ
MAGICAL CURE-ALL
8.99
Ⓗ

If you have any questions about nutrition, talk to your teacher, school nurse, or school food service director. They may be able to tell you the types of services in your community that can help you.

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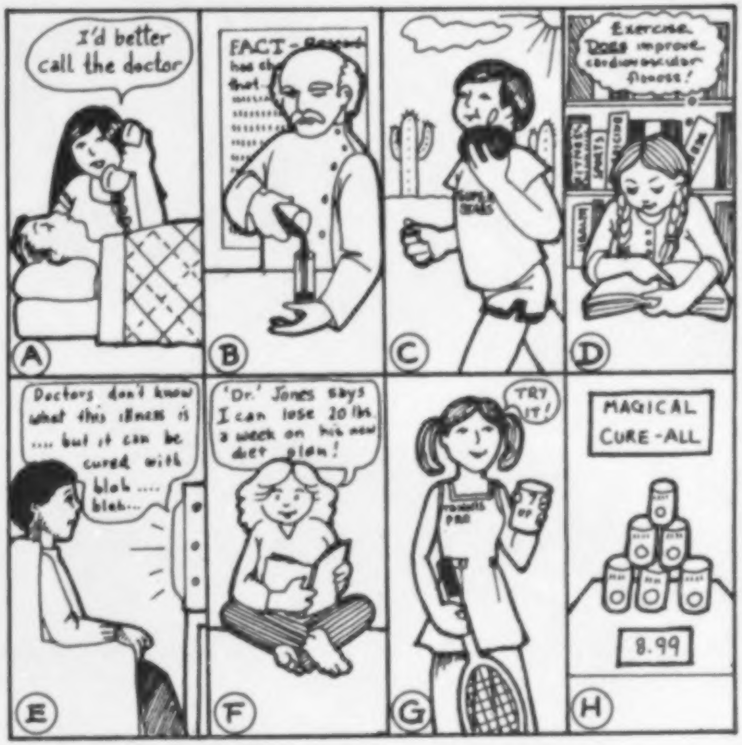
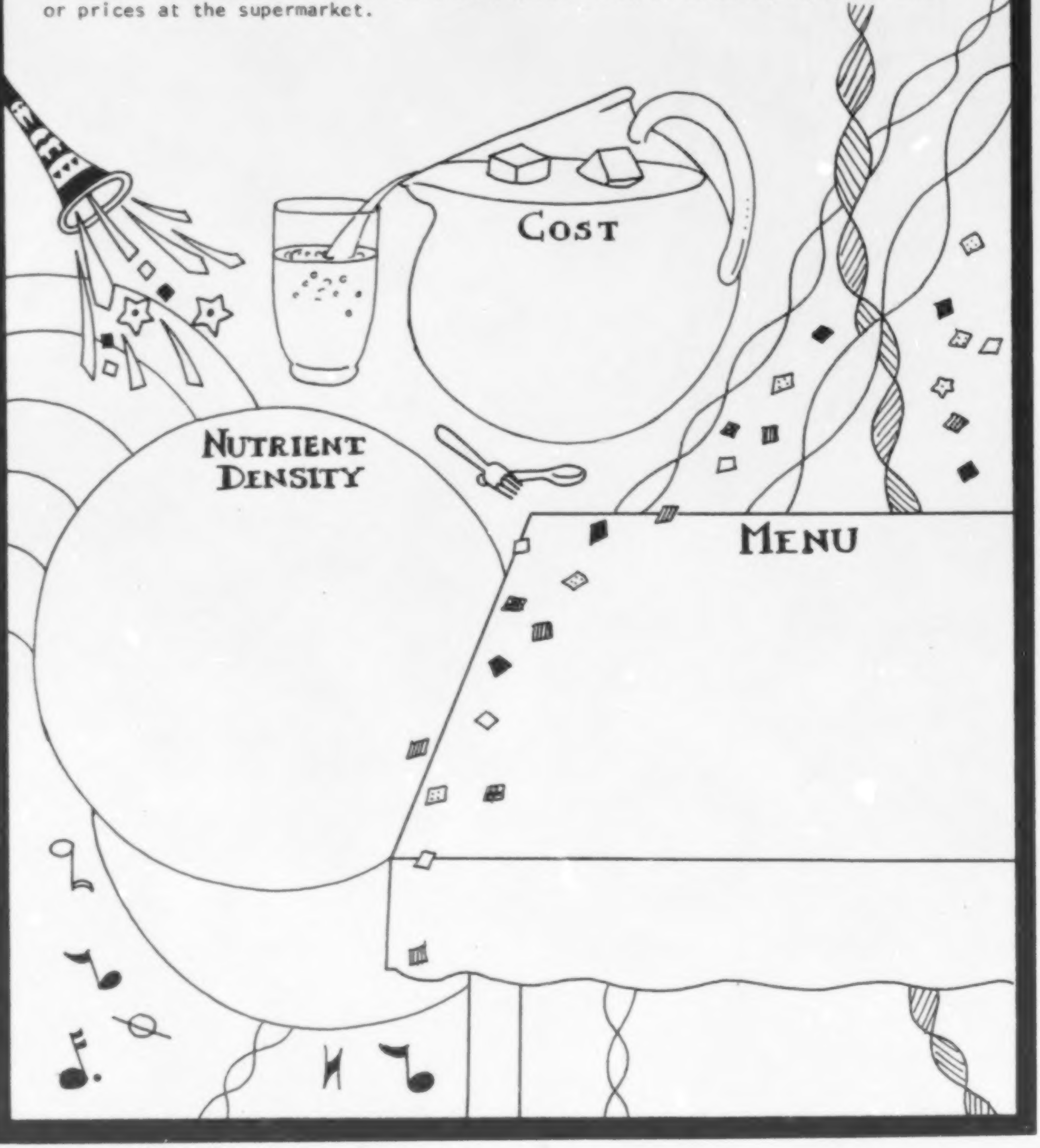

I'd better call the doctor
A
FACT –
B
C
Exercise DOES improve cardiovascular fitness!
D
Doctors don't know what this illness is .... but it can be cured with blah .... blah...
E
'Dr.' Jones says I can lose 20 lbs. a week on his new diet plan!
F
TRY IT!
G
MAGICAL CURE-ALL
8.99
H

If you have any questions about nutrition, talk to your teacher, school nurse, or school food service director. They may be able to tell you the types of services in your community that can help you.

FIESTA FOOD

Plan a class party for Nutrition Super Stars. You have $20.00 to spend. Figure out what you can afford to buy ..... include something to wash it all down with. After you have made the list of snacks and drinks, find the nutrient density of the foods you have chosen. Compute cost of the food by checking newspaper ads or prices at the supermarket.



Arizona Nutrition Education & Training

net PROGRAM

NUTRITION Super Stars

Arizona Basic Skills Competencies

Cross Reference Matrix

ARIZONA DEPARTMENT OF EDUCATION
Carolyn Warner, Superintendent
Dr. Jim Hartgraves, Deputy Superintendent
Dr. Ray Ryan, Deputy Superintendent

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HOW TO USE THE CROSS REFERENCE INDEX

The cross reference index for the Nutrition Super Stars Curriculum and Arizona Basic Skills Competencies Chart is contained on pages 1-10. The learning activities in the five lessons / twenty class plans of the Super Stars Curriculum Kit for fifth and sixth grade are identified on separate pages (see table of contents). Basic skills utilized in conducting the learning activities in each class are numerically identified in the index. The numbers for each learning activity in the index on pages 1-10 are translated into the Arizona Basic Skills Competencies by using the lists on pages v-viii.

ARIZONA BASIC SKILLS COMPETENCIES CHARTS

COMMUNICATION SKILLS CHART - SPEAKING/WRITING

Fifth Grade Competencies

59. Asks essential questions to get information.
60. Takes part in panel discussions.
61. Takes notes.
62. Writes a report from an outline.
63. Uses a variety of sentence patterns. For example: questions and commands.
64. Selects action verbs. For example: dance, paint, swallow.
65. Identifies common and proper nouns. For example: boy-Roberto, city-Tucson.
66. Capitalizes titles of respect. For example: Mr., Dr., and Ms.
67. Capitalizes the first and important words of books and titles.
68. Spells correctly.
69. Shows increasing penmanship skills with pencil and ball-point pen.

Sixth Grade Competencies

70. Interprets and gives news reports and announcements.
71. Knows and observes proper conduct during meetings.
72. Writes and identifies the parts of a friendly letter.
73. Selects correct noun for a sentence. For example: the boy/boys runs.
74. Recognizes pronouns. For example: The dog saw him.
75. Capitalizes the first word of a quote. For example: Nancy said, "Let's go!"
76. Adds new words to spelling vocabulary in all classes. For example: math, art.
77. Prints and writes legibly.

COMMUNICATION SKILLS CHART - LISTENING/READING

Fifth Grade Competencies

56. Recognizes exaggeration in advertising.
57. Reports events in correct order.
58. Uses phonics in reading. For example: sports, comic strips, ads in the newspaper.
59. Summarizes a story.
60. Gathers information to solve problems.
61. Identifies cause and effect in reading selections.
62. Uses maps to locate information.
63. Uses dictionary to check pronunciation.
64. Uses dictionary to find the meaning of words.
65. Uses picture and punctuation clues to help understand the meaning of a sentence.
66. Alphabetizes words to the third letter. For example: mailman, maybe.
67. Identifies and names the root word in a larger word. For example: looking, dogs.

Sixth Grade Competencies

68. Takes messages.
69. Reads and follows directions in all classes.
    For example: mathematics, social studies.
70. Identifies meaning of different forms of verbs.
    For example: sing, sings, singing.
71. Identifies meaning of different forms of nouns.
    For example: cat, cats; lunch, lunches.
72. Identifies, spells, and knows the meaning of prefixes and suffixes.
    For example: unknown, happiness.
73. Interprets a comparison using "like" or "as".
74. Puts facts from a paragraph into a logical order.
75. Notes details from graphs, maps, charts, and diagrams.
76. Locates and uses index, table of contents, and title page of book.
77. Skims when reading to locate specific information.
78. Uses picture and punctuation clues to help understand a sentence or a word in the sentence.
79. Uses a variety of comprehension skills.
    For example: main idea, cause and effect, draws conclusions.

COMPUTATION SKILLS CHART

Fifth Grade Competencies

59. Memorizes multiplication facts to 100 (1 x 0 through 10 x 10).
60. Identifies place value of each digit in a seven-digit number.
    For example: 3,678,451 =

3	6	7	8	4	5	1
1,000,000	100,000	10,000	1,000	100	10	1

61. Multiplies a two-digit number by a two-digit number with carrying.
62. Subtracts a three-digit number from a four-digit number with borrowing.
63. Divides a four-digit number by a one-digit number with a remainder.
64. Adds any whole number problem.
65. Rounds a given number 0 through 1,000,000 to the nearest thousand or below.
    For example: 987 rounds to 1,000.
66. Understands the use of decimal in fractions.
67. Computes perimeter and area using standard and metric measurement units.
68. Reads and writes a given number through one billion.
69. Understands the concept of "parallel (═)", "perpendicular (⊤)", and "intersecting (✕)" lines.
70. Reads simple graphs, tables, and charts.

Sixth Grade Competencies

71. Multiplies a three digit number by a three-digit number with carrying (regrouping).
72. Divides a four-digit number by a two-digit number with remainders.
73. Adds and subtracts fractions with unlike denominators. Finds the least common denominator. For example: $\frac{2}{5} + \frac{1}{3} = \frac{6}{15} + \frac{5}{15} = \frac{11}{15}$
74. Adds and subtracts mixed numbers with or without regrouping.
    For example:
$$\begin{array}{l} \ \ 5\ 3/4 \\ \underline{+3\ 3/4} \\ \ \ 8\ 6/4 = 9\ 2/4 = 9\ 1/2 \end{array}$$
75. Adds and subtracts mixed numbers with unlike denominators.
    For example:
$$\begin{array}{rcl} 2\ 1/2 & = & 2\ 3/6 \\ \underline{-1\ 1/3} & = & \underline{1\ 2/6} \\ & & 1\ 1/6 \end{array}$$
76. Multiplies simple fractions. For example: $\frac{5}{7} \times \frac{3}{8} = \frac{15}{56}$
77. Divides simple fractions. For example: $\frac{1}{3}\ \ \frac{6}{7} = \frac{1}{3} \times \frac{7}{6} = \frac{7}{18}$
78. Adds and subtracts any decimal fractions. For example: .25 + .37 = .62
79. Multiplies any decimal fractions.
80. Divides any four-digit decimal fraction by any two-digit decimal fraction.
81. Compares decimal fractions for size. For example: $4.02 > 3.85$
82. Uses tables and charts to read a road map.

CITIZENSHIP SKILLS CHART

Fifth Grade Competencies

61. Completes and turns in homework on time.
62. Displays proper and lawful behavior.
63. Defends rights of others.
64. Displays courtesy toward teacher and others.
65. Helps maintain a clean school and community environment.
66. Identifies the rights granted to all U.S. citizens.
67. Relates state's history to that of nation.
68. Identifies the contributions of various cultures in our nation's history.
69. Works with others to make changes in rules.
70. Shows flexibility (changes in scheduling, rules in games).
71. Recognizes the difference between personal needs and wants.
72. Shows knowledge of important people in history.

Sixth Grade Competencies

73. Organizes available time to complete tasks.
74. Challenges self to perform better.
75. Works well with people from various backgrounds and cultures.
76. Interprets information from charts, tables, and graphs.
77. Provides a positive example of cooperation to others.
78. Understands current affairs and global concerns.
79. Participates in classroom and school elections.
80. Shows understanding of rules and laws when participating in school activities.
81. Describes ways people are interrelated.
82. Identifies impact of technology on personal life.
83. Identifies where U.S. and other countries have common concerns.
84. Identifies alternative ways for achieving goals.

LESSON 1

(Classes 1-4)

EVERYBODY'S A "STAR"

Concept: Food supplies nutrients which form dynamic body composition.

5th GRADE

ARIZONA BASIC SKILLS COMPETENCIES - CROSS REFERENCE INDEX

CURRICULUM		COMMUNICATION		COMPUTATION	CITIZENSHIP
Class	Activity	Speaking/Writing	Listening/Reading		
1	1	59,64	57,58,61,63-67		
	2	59,61,64,68,69	58,60,61,63-67		61,62,64,65, 70
2	1	59,63,64,65	58,61,63-67	68	71
	2	59,61,63,64,65	63-67		62,64
	3	59,68,69	58,60,61,63-67		61
3	1	59	58,60,63-67	59,64,68	61
	2	59,61,63,64,65	63-67		
	3	59,63,64	58,61,63-67		
4	1	59,63,64	58,60		71
	2	59,61,64	58,60,61,63-67	68	61,62,64,65
	3	59,63,64,68	58,60,61,63-67		61

LESSON 1

(Classes 1-4)

EVERYBODY'S A "STAR"

Concept: Food supplies nutrients which form dynamic body composition.

6th GRADE

ARIZONA BASIC SKILLS COMPETENCIES - CROSS REFERENCE INDEX

CURRICULUM		COMMUNICATION		COMPUTATION	CITIZENSHIP
Class	Activity	Speaking/Writing	Listening/Reading		
1	1	73,74,76	71,73,75,77,78,79		73,74,81
	2	73,76,77	69,75,78,79		73,74
2	1	73,74,76	74,75,77,78,79		73,74,81
	2	76	75,78,79		84
	3	76,77	69,78,79		73,74
3	1	76,77	69,78,79		73,74
	2	76	75,78,79		84
	3	73,74,76	72,77,78,79		73
4	1	76	75,76,78,79		82,84
	2	76,77	69,75,77,78,79		73,74
	3	77	78,79		73,74

LESSON 2

(Classes 5-7)

CREATING A "STAR"

Concept: Nutrients in food are metabolized to form dynamic body composition.

5th GRADE

ARIZONA BASIC SKILLS COMPETENCIES - CROSS REFERENCE INDEX

CURRICULUM		COMMUNICATION		COMPUTATION	CITIZENSHIP
Class	Activity	Speaking/Writing	Listening/Reading		
5	1	68,69	57		61,62,64
	2	61	57		62,64
	3	59,63,64,68,69	57,58,60,61		61,62,64
6	1	63,68,69	58,65		62,64
	2	60,61			62,64
	3		60		61,62,64
	4	59	60	69,70	61
7	1	59	58,60	70	61,62
	2	59,60,63	60		62,64

LESSON 2

(Classes 5-7)

CREATING A "STAR"

Concept: Nutrients in food are metabolized to form dynamic body composition.

6th GRADE

ARIZONA BASIC SKILLS COMPETENCIES - CROSS REFERENCE INDEX

CURRICULUM		COMMUNICATION		COMPUTATION	CITIZENSHIP
Class	Activity	Speaking/Writing	Listening/Reading		
5	1	76,77	69,79		73,77
	2	73,76	70,71,79		77
	3	73,76,77	69-71,75,79		73,74,76,77
6	1	73,76,77	69,71,78,79		77
	2	76	71,79		77
	3	76,77	69,75,79		73,76,77,80
	4		69,75,79		73,76,77
7	1	76	69,75,79.		73,74,76,77, 81
	2	73	79		77

LESSON 3

(Classes 8-11)

SHAPING A "STAR"

Concept: Many factors influence eating and activity habits.

5th GRADE

ARIZONA BASIC SKILLS COMPETENCIES - CROSS REFERENCE INDEX

CURRICULUM		COMMUNICATION		COMPUTATION	CITIZENSHIP
Class	Activity	Speaking/Writing	Listening/Reading		
8	1	59-61	57,59		62,64,70,71
	2	59,65	58,61,65		61,68,71
	3	59,61	58,65	70	71
	4	59,68,69	65		
9	1	59,64,68,69	58,61,65	70	61
	2	59,68,69	58,60	70	61
	3	59,60,63,64,68,69	56-58,61,65		61,64,69,70
10	1	59,60,63,64,68,69	56-58,60,61,65	70	61,64,69,70
11	1	59,60,63,64	56,59		64,70

LESSON 3

(Classes 8-11)

SHAPING A "STAR"

Concept: Many factors influence eating and activity habits.

6th GRADE

ARIZONA BASIC SKILLS COMPETENCIES - CROSS REFERENCE INDEX

CURRICULUM		COMMUNICATION		COMPUTATION	CITIZENSHIP
Class	Activity	Speaking/Writing	Listening/Reading		
8	1	70	79		77,81,83
	2	73,74,76	69-71,77-79		73,75,78,81-83
	3	73,74,76	75,78,79		76,81,83
	4	74,77	69,71,75,78		73,76,81,83
9	1	73,76,77	69-71,75,78,79		73,76,78,81-84
	2	73,76,77	69,71,75,79		73,76,82,84
	3	71,73,74,76,77	69-71,78,79		73,77,81,82,84
10	1	71,73,74,76,77	69-71,75,78,79		73,76,77,81,82,84
11	1	70,71,73	69,79		73-75,77,81,82,84

LESSON 4

(*Classes 12-15*)

MAKING A "SUPER STAR"

Concept: Influence of eating and activity habits on health status.

5th GRADE

ARIZONA BASIC SKILLS COMPETENCIES - CROSS REFERENCE INDEX

CURRICULUM		COMMUNICATION		COMPUTATION	CITIZENSHIP
Class	Activity	Speaking/Writing	Listening/Reading		
12	1	59,63,65	58,65		62,64
	2	59,60,63,65	58,60,65		61,62,64
	3	59,61	60	61,66	61,62,64
13	1	64,68,69	58,60		61,62,64
14	1				61,62,64,70
	2			68,70	70
15	1	59,63-65,68,69	58,60		61,62
	2	62,64,65	58		
	3	59,65	60	70	61,62,64
	4	59	60,62	64,70	62,64

LESSON 4

(Classes 12-15)

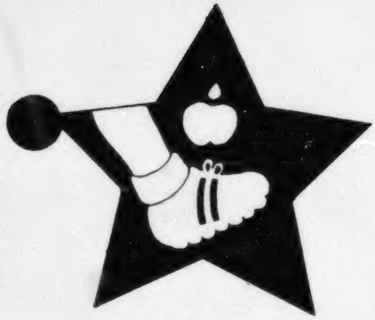
MAKING A "SUPER STAR"

Concept: Influence of eating and activity habits on health status.

6th GRADE

ARIZONA BASIC SKILLS COMPETENCIES - CROSS REFERENCE INDEX

CURRICULUM		COMMUNICATION		COMPUTATION	CITIZENSHIP
Class	Activity	Speaking/Writing	Listening/Reading		
12	1	74,76	78,79		77
	2	73,74,76	69-71,78,79		73,77,80
	3	76	69	79	73
13	1	73,76,77	69,79		73,74,77
14	1		69,79		73,74,80
	2		69,75,79		73,74,76,77
15	1	73,74,76,77	69,70-72,79		73
	2	74,76	69-71,78,79		77,80
	3	74	69-71,75,78		73,74,76
	4	74	69,75,78	73-75,81	73-77,80,84



LESSON 5

(Classes 16-20)

FUELING A "SUPER STAR"

Concept: Help yourself to good health by applying nutrition and fitness knowledge when making food-snack and activity choices.

5th GRADE

ARIZONA BASIC SKILLS COMPETENCIES - CROSS REFERENCE INDEX

CURRICULUM		COMMUNICATION		COMPUTATION	CITIZENSHIP
Class	Activity	Speaking/Writing	Listening/Reading		
16	1	59,60,63,64	57,60,61,63-65		62,64
	2	59,68,69	57,60,63,64	64,70	61,62,64
	3	59,60,63,64	57,60		62,64
17	1	59,63,68,69	57,60,63,64		61,62,64
	2	59,60,63	57,60		62,64
	3	59,60,63	57,60	70	62,64
	4	59,60,63,64	60,63,64		62,64
18	1	59,60,63,64	60,61,63,64		62,64
	2	59,63,64,68,69	57,60,63-65	61,64,66,70	61,62,64
	3	59,60,62-64,69	57,60,63,64		61,62,64
19	1	59,60,61,63,64,68,69		57,59,60,61,63,64	61,62,64,71
	2	59,63,64	60,61,63,64	61,62,66	61,62,64
20	1	59,60,63,64	56,57,60,61,63,64		62,64
	2	59,63,64,68,69	60,63,64	61,62,64,70	61,62,64

LESSON 5

(Classes 16-20)

FUELING A "SUPER STAR"

Concept: *Help yourself to good health by applying nutrition and fitness knowledge when making food-snack and activity choices.*

6th GRADE

ARIZONA BASIC SKILLS COMPETENCIES - CROSS REFERENCE INDEX

CURRICULUM		COMMUNICATION		COMPUTATION	CITIZENSHIP
Class	Activity	Speaking/Writing	Listening/Reading		
16	1	73,74,76	74,75,77-79		73,74,76,82
	2	76,77	69,75,78,79		73,74,76
	3	73,74,76	69,72,73		73,74
17	1	73,74,76,77	69,74,77		73,74
	2	73,74	79		74
	3	73,74	79		74
	4	76	74,77		74
18	1	76	74,77		73,74
	2	77	69,74,75,79		73,74,76
	3	77	69-77		73,74
19	1	76	74,77,79		73,74,81
	2	76,77	69,74,77,79	79	73,74
20	1	76	74,77,79		73,74
	2	76,77	69,77,79		73,74,84